

Northamptonshire County Council.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

For the Year 1903,

INCLUDING A

Summary of the Annual Reports of the District

Medical Officers of Health,

BY

CHARLES E. PAGET,

County Medical Officer of Health.

Northampton:—

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NORTHAMPTONSHIRE COUNTY COUNCIL.

Annual Report of the Medical Officer of Health FOR THE YEAR 1903.

I herewith have the honour to present the Seventh Annual Report of the Medical Officer of Health to the County Council of Northamptonshire, including a Summary of the Annual Reports of the Medical Officers of Health for the several Districts within the Administrative County.

The general plan of the report is the same as in those which have preceded it, so that the value of the series for purposes of reference may be maintained.

There were 12 **Inquiries held by the Local Government Board** during the year 1903 relative to sanitary matters in the Administrative County. This is a fair average number, and one-half of them were in connection with sewage disposal schemes.

Date.	Sanitary District.	Subject.	Amount of Loan.	Result.
Feb. 12th	Wellingborough Rural..	Sewerage and Sewage Disposal at Irchester	£2,500	Sanctioned
„ 13th	Irthlingborough Urban..	Water Supply	£12,200	£10,200 sanctioned
„ 24th	Kettering Rural ..	Sewage Disposal at Burton Latimer	£4,980	Part sanctioned
Apl. 22nd	Thrapston Rural ..	Sewage Disposal at Stanwick ..	£2,400	Referred back
May 23rd	Daventry Rural ..	Sewage Disposal at Woodford-cum-Membris (further loan)..	£600	Sanctioned
July 1st	Wellingborough Rural..	Suitability of ground at Bozeat for burial purposes ..		Sanctioned
„ 24th	„ Urban..	Additional for Water Supply ..	£270	Sanctioned
„ „	„ „ ..	New Cottages on Sewage Farm..	£450	Sanctioned
Aug. 26th	Irthlingborough Urban..	Further for Sewage Disposal ..	£2,100	£2,400 sanctioned
Sep. 3rd	Hardingstone Rural ..	Water Supply at Brafield ..	£1,000	Under consideration
Nov. 18th	Thrapston Rural ..	Sewerage and Sewage Disposal at Ringstead (further loan) ..	£550	Sanctioned
„ 19th	Wellingborough Urban...	Cemetery purposes	£3,810	Amended to £4,000, under consideration

The number of Local Government Board inquiries for similar purposes during the last six years have been as follows :—7 in 1898, 8 in 1899, 15 in 1900, 12 in 1901, 19 in 1902, and 12 in 1903. From these figures it will be seen that a substantial number of improvement schemes have been set on foot, and the majority have been brought about through representations of the Public Health Committee.

I regret not being able to record, in connection with the work of preventing **River and Stream pollution** in the County, as much work accomplished or put in hand as I could have wished. There has been delay in several instances attributable to various causes, and I wish I could feel that all such had been unavoidable. Steps are being taken to deal with sewage effluents at Badby and Flore in the DAVENTRY RURAL DISTRICT, but no scheme has yet been formulated for dealing with the serious pollutions of the river at Weedon : after much delay, and necessary threatenings by the County Council, work has at length been commenced to deal with the sewage effluent at Cogenhoe in the HARDINGSTONE RURAL DISTRICT ; a scheme has been put in hand at Bugbrooke in the NORTHAMPTON RURAL DISTRICT, to be followed shortly it is said by others at Harpole, Kislingbury, and Nether Heyford ; and schemes for sewage disposal are in course of preparation or in hand for Mears Ashby, Wilby, Irchester, Great Doddington, and Isham in the WELLINGBOROUGH RURAL DISTRICT, at Burton Latimer in the KETTERING RURAL DISTRICT, at Stanwick and Ringstead in the THRAPSTON RURAL DISTRICT, and on the London Road, in the WELLINGBOROUGH URBAN DISTRICT. The last named was reported as completed in September of the year, but was certainly not in working order at the beginning of the following December, nor had all the necessary drain-connections been made. I reported in June last that serious pollution of the river Nene was being caused by sewage from the village of Woodford in the THRAPSTON RURAL DISTRICT

being discharged directly into the river, and from the village of Denford into a backwater of the same river : that a scheme for disposing of the sewage at Little Addington was in hand ; that improvements in the scheme at Great Addington were advisable ; that the sewage-farm at Islip was then working satisfactorily, but that a few houses still needed to be included in the sewerage scheme ; and that only one series of filter-beds at Thrapston had been completed, so that they were heavily taxed. These matters were all referred to the District Council for their consideration, and will be the subject of further report. In September, I made a further inspection, jointly with the Medical Officer of Health to the Leicestershire County Council, of the Sewage Disposal Works at MARKET HARBOROUGH, and found, as a result of the action taken by the responsible authorities since a similar inspection in October 1902, that the effluents from these works into the River Welland had been very considerably improved. There was, however, one bad effluent, and I think that they will all require watching from time to time, as the amount of sewage to be dealt with appears to be an increasing one. I have also made several inspections of the effluents from the Sewage Disposal works of the KETTERING URBAN DISTRICT, and regret that I cannot speak of them as having been more than moderately good. The District Council have, however, had certain alterations made at their farm under the advice of their Surveyor, but I feel confident that, with the increased dry-weather flow of sewage since the establishment of the farm, the amount of land for irrigation purposes is much below what is required for dealing properly with the sewage. The effluents from the sewage-farm of the BOROUGH OF NORTHAMPTON as they pass into the River Nene have been, with occasional exceptions, fair, but they are in my opinion capable of improvement.

The work of bringing the **Midwives Act, 1902**, into operation in this County has entailed a very heavy

official correspondence, and much pains to make the provisions of the Act quite clear to those interested in them. A preliminary notice, dated 6th April, 1903, was posted up in every parish of the Administrative County calling the attention of every woman using the title of "Midwife," or who habitually and for gain attended women in childbirth, that the Act came into operation on 1st April, 1903, that the Local Supervising Authority was the County Council, and that further information would be given to any women affected by the provisions of the Act on her making application to me. In the meantime, I put myself into communication with every medical practitioner in the County, and asked him to be good enough to assist me by sending me, as far as he was able from the area within which he practised, (*i*) a list of women who habitually and for gain attended women in childbirth without a medical practitioner, and (*ii*) a list of women who occasionally attended confinements, not necessarily for gain. The information thus obtained was supplemented by lists furnished me by the Superintendents of the County Police through the kindness of the Chief Constable. I then put myself into communication with each of the women of whose existence I thus became aware, and sent her an explanatory letter, setting forth the provisions of the Act and inviting her to communicate with me on any point that might be difficult for her to understand. The number of women thus written to was 378. A second explanatory letter had to be sent to 224 of these women, and interviews were accorded to 16 others. The Rules of the Central Midwives Board were not published until towards the end of September 1903, their approval for a period of three years by the Privy Council not having been granted until the 12th of August preceding. On the publication of the Rules, I wrote to inform all the women practising midwifery in the County—the total number having been increased in the meantime by additional information to 384—of the fact, explained to them the necessary procedure

in each class of case if they desired to be certified as Midwives under the Act, and sent them at the same time an Abstract of the Rules relating to the practice of Midwives. By the middle of February, 1904, 46 applications had been made by women for enrolment as Midwives on the ground either (*a*) of having been in *bonâ fide* practice for one year previous to the 31st of July 1902, or (*b*) of possessing Certificates in Midwifery satisfactory to the Central Midwives Board: at the same time, 36 other women had decided to give up practice as Midwives on account of increasing years, ill-health, or inability to write and so fill up necessary forms, or because they did not care to go to the expense of qualifying for Certificates. The right of any woman to take or use the name or title of Midwife ceases from and after the 1st April, 1905, unless she be duly certified under the Act: I intend, therefore, later on to send the remaining women who have not finally communicated with me a reminder of this provision. In December, I reported to the Public Health Committee on the manner in which, in my opinion, the Act should be administered in this County. In regard to certain suggestions to County and County Borough Councils in reference to the duties assigned to them under the Midwives Act, 1902, issued by the Central Midwives Board, I pointed out that those relating to the retention of the duties under the Act by the County Council, and the appointment of the Public Health Committee as the Local Supervising Authority, had already received the approval of the County Council. My own appointment as the Executive Officer of the Committee was then recommended, and subsequently approved by the Council. In regard to the supervision of midwives, it was also decided to give me assistance by means of a fully trained nurse who should herself be qualified to be put on the Roll of Midwives, and I am of opinion that such a female inspector should succeed in making the supervision both practical and helpful to the midwives themselves. The important clause in the Rules of the Central Midwives Board

respecting the disinfection of the clothing of midwives by the local sanitary authority, has led to a recommendation being sent from the County Council to the District Councils to provide proper steam disinfectors where such are not in existence; and I am glad to say that this recommendation is meeting with some satisfactory response. A further step of importance in regard to administration has also been taken, namely, in regard to action which must follow the notification of a case of puerperal fever in the practice of a midwife. It was obvious that in almost every instance the notification of the case would reach the District Medical Officer of Health before it reached me, and that he would have opportunities of making earlier inquiry into it for the information of his District Council than I could for the Local Supervising Authority. The local medical officer of health is, however, under no obligation to report on such a case to the Local Supervising Authority; but, inasmuch as there should be as little delay as possible in a report on the circumstances of a case of puerperal-fever occurring in the practice of a midwife, the Council, following the example of the Derbyshire County Council, decided that a payment of half-a-guinea should be made to the medical officer of health on his sending in a prompt report of the case upon an approved form. I am hopeful that the administration of the Act may now be carried out in this County without friction and in a satisfactory manner.

It was obvious in my last Annual Report that, in most of the Districts of the Administrative County, the Medical Officers of Health had shown a very keen appreciation of the new duties imposed upon them by the **Factory and Workshop Act, 1901**, and it is equally evident from their reports for the year 1903 that the importance of those duties is still fully recognised by them. Important memoranda on the subject of the duties of Local Authorities and their Officers under this Act were issued during the year 1903 by

the Home Office and the Local Government Board, setting out with precision the scope of those duties and the aims in view. The memorandum of the Home Office is numbered B. 37268, and is procurable in England, either directly or through any Bookseller, from Eyre & Spottiswoode, East Harding Street, Fleet Street, London, E.C., at the price of twopence; it sets out fully the duties of District Councils under the Act. So far as the Medical Officer of Health is concerned, he has to report annually, in accordance with Section 132 of the Act, “specifically on the administration of this Act in workshops “and workplaces,” and he must send a copy of such report to the Secretary of State at the Home Office. In the memorandum of the Local Government Board, which has reference to the Annual Reports of Medical Officers of Health, it is pointed out that those reports should take cognisance of the following points :—

“(1) Sanitary condition of workshops and workplaces, including

“ (a) cleanliness ;

“ (b) air space ;

“ (c) ventilation ;

“ (d) drainage of floors on which wet processes are carried on ;

“ (e) provision of suitable and sufficient sanitary conveniences.

“(2) Special sanitary regulations for bakehouses.

“(3) Home work. Under this heading comes the prevention of home work being carried on in dwellings which are injurious or dangerous to the health of the workers through overcrowding, want of ventilation, or other sanitary defect, or in dwellings in which dangerous infectious disease exists.

“(4) The keeping of the lists of outworkers in certain branches of industry which are to be furnished by employers; and the transmission of the name and place of employment of any such outworker who does not reside in the district to the Council of the district in which he works.

“(5) The keeping of a register of workshops.”

In many districts in this County it is found that the number of workplaces is decreasing owing to the extension of the factory system, and the general consensus of opinion appears to be decidedly in favour of this change from the point of view of the health of the workers. It is possible too that a continuance of vigilance over the sanitary condition of all workplaces, especially in country districts, will tend still further to decrease the evils which are so apt to arise in workplaces from cramped surroundings.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

I wish I could say that all the reports sent in by the District Medical Officers of Health were printed, though the advance in this direction has been considerable during the past five or six years. Apart from the fact that the Medical Officer of Health has to furnish his District Council with one copy of his report, the County Council with another, and the Local Government Board and the Home Office each with one, making four in all, and perhaps a draft for himself for future reference,—altogether no small labour,—there is the main object of the framing of the report to be considered. The duty of writing the report was not intended by the Legislature to be a perfunctory one, nor was the report itself meant to be useless for public purposes. The Memorandum of the Local Government Board on the subject is quite explicit, and reads thus :—“It is very desirable that the Annual Report should
“be printed, for the sake of facility of reference and in order
“that a supply of copies may be available for distribution
“among the Town or District Councillors and other persons

“interested.” I hope, therefore, that those District Councils which do not at present have the Annual Reports of their Medical Officers of Health printed will give instructions for the purpose before the close of the current year.

The following table shows the dates on, and the form in, which the respective Annual Reports were received by me :—

NAME OF DISTRICT.	DATE OF RECEIPT.				FORM.
Borough of Brackley	...	January 15th, 1904	...	Typed.	
Daventry Rural	...	18th	...	...	...
Middleton Cheney Rural	...	19th	...	...	...
Kettering Urban	...	20th	...	Printed.	
Raunds Urban	...	23rd	...	...	...
Wellingborough Urban	...	26th	...	Typed :	Printed later.
Hardingstone Rural	...	27th	...	Printed.	
Kettering Rural	...	29th	...	...	...
Northampton Rural	...	30th	...	...	...
Borough of Daventry	...	February 2nd	...	MS., Printed later.	
,, ,, Higham Ferrers	...	4th	...	Printed.	
Finedon Urban
Irthlingborough Urban
Thrapston Rural
Brackley Rural	...	11th	...	Auto-copied.	
Potterspury Rural	Printed.	
Rushden Urban	...	12th	...	...	...
Rothwell Urban	...	17th	...	...	...
Easton-on-the-Hill Rural	...	22nd	...	MS.	
Oundle Rural	...	23rd	...	Printed.	
Wellingborough Rural	...	24th	...	...	...
Desborough Urban	...	25th	...	...	...
Brixworth Rural	...	March 3rd	...	...	...
Gretton Rural	...	9th	...	...	...
Oxendon Rural	...	15th	...	...	...
Crick Rural	...	22nd	...	...	...
Oundle Urban	...	23rd	...	...	...
Towcester Rural	...	25th	...	...	...

AREA AND POPULATION.

There have not been to my knowledge any alterations in the boundaries of any of the Districts of the Administrative County during the past year. There are, therefore, as stated in my last Annual Report, twenty-eight Districts, of which 12 are Urban and 16 are Rural, in the County. The Urban Districts have a total area of 40,032 acres, and the Rural Districts have 541,647 acres, making together a total of **581,679** acres for the Administrative County.

AREA IN ACRES OF URBAN DISTRICTS.

<i>Name of District.</i>	<i>No. of Acres.</i>	<i>Name of District.</i>	<i>No. of Acres.</i>
Borough of Brackley	3,489	Kettering	... 2,814
„ „ Daventry	3,633	Oundle	... 2,228
„ „ Higham		Raunds	... 4,460
„ „ Ferrers	1,945	Rothwell	... 3,638
Desborough	... 2,400	Rushden	... 3,777
Finedon	... 3,661	Wellingborough	... 4,265
Irthlingborough	... 3,722		

AREA IN ACRES OF RURAL DISTRICTS.

<i>Name of District.</i>	<i>No. of Acres.</i>	<i>Name of District.</i>	<i>No. of Acres.</i>
Brackley	... 42,440	Middleton Cheney	13,888
Brixworth	... 63,647	Northampton	... 16,228
Crick	... 18,547	Oundle	... 58,677
Daventry	... 60,877	Oxendon	... 34,491
Easton-on-the-Hill	6,341	Potterspury	... 19,914
Gretton	... 12,310	Thrapston	... 36,836
Hardingstone	... 32,542	Towcester	... 42,457
Kettering	... 49,337	Wellingborough	... 33,115

POPULATION.—In my last Annual Report I gave a table showing the population in the County at the Censuses of 1891 and 1901, together with the distribution of the sexes and the number of the inhabited houses at the latter census. It was

shown from this that the total population of the County at the census of 1901 amounted to 207,485 persons, of whom 90,729 were in the Urban Districts and 116,756 were in the Rural Districts. The estimated populations for the year 1902, showed an increase of 2,558 in the Urban Districts, but a decrease of 59 in the Rural Districts, or a total increase for the County of 2,499 for that year. The estimates of population by the several District Medical Officers of Health for the year 1903, give the following results :—Urban Districts, an increase of 2,918; Rural Districts, a decrease of 292; Administrative County, a total increase of **2,626**. The total estimated population for the year 1903, therefore, amounts to 96,205 in the Urban Districts, 116,405 in the Rural Districts, and **212,610** in the Administrative County. From this it will be seen that the increase in the Urban Districts is estimated to be at a rate of slightly over 3·0 per cent., and the decrease in the Rural Districts at a rate of 0·25 per cent.

The following references in regard to this subject are to be found in the reports of the District Medical Officers of Health, some of which are interesting as showing careful calculations from the ascertained number of inhabited houses in their respective districts :—

HIGHAM FERRERS BOROUGH.—“I have based my figures, “as to the population, on the census of 1901, which I believe “to be practically correct for last year.”

DESBOROUGH URBAN.—“The population at the census “of 1901 was 3,573. I have estimated the population to the “middle of 1903 as being 3,752.”

FINEDON URBAN.—“There are 858 inhabited and 64 “uninhabited houses in the township, and I estimate the “population at 4,214, which allows rather under 5 persons to “each house.”

IRTHLINGBOROUGH URBAN.—“I estimated the population
 “at the middle of last year (1902) at 4,526 and at the end of
 “the year at 4,612, at which time there were 1,034 habitable
 “houses. At the middle of this year 7 new houses had been
 “built and occupied, making a total of 1,041 houses, of which
 “70 were empty and 6 occupied but not inhabited. As the
 “births have exceeded the deaths by at least 90 each year
 “since the census was taken in 1901, I think I shall be well
 “within the mark if I estimate the number of persons per
 “house at 4·9 instead of 4·84. The population, therefore,
 “works out at 4,728 at the middle of the year, or an increase
 “of 202.”

KETTERING URBAN.—“I take the population of Kettering
 “in the middle of the year 1903 to have been 30,000. It is
 “rather more difficult than usual to arrive at an exact estimate,
 “as there are certainly more unoccupied houses than usual;
 “but I consider the above a fair conclusion.”

RAUNDS URBAN.—“The population at the last census
 “was 3,811, and the number of inhabited houses 832. The
 “estimated population for last year was 4,031. During
 “1903, 36 new houses were built and occupied in the District,
 “so that the estimated population now stands at 4,211.”

RUSHDEN URBAN.—“The Rushden Urban District con-
 “tains an estimated population of 13,337 as against 12,961 of
 “last year; being an estimated increase of 376. The number
 “of inhabited houses is 2,742, an increase of 79 from last
 “year.”

WELLINGBOROUGH URBAN.—“The last census (1901)
 “gave us an average of 4·5 persons for each inhabited house,
 “(population 18,412: inhabited houses 4,047). In 1902,
 “there were 4,294 inhabited houses giving an estimated
 “population of 19,400. In 1903, there were 4,416 inhabited
 “houses showing a population of 19,872. The population,
 “therefore, increased by 988 from 1901 to 1902, and 472 from

“1902 to 1903. The smaller increase is probably attributable
“to lack of employment in the town, causing diminished
“immigration.”

DAVENTRY RURAL.—“The population of the District to
“the middle of the year, I would estimate to be 13,425; there
“is no reason to think that the population has altered since
“the census of 1901.”

HARDINGSTONE RURAL.—“In estimating the population
“of the district for the year, I have assumed it to be stationary,
“there are slight building operations going on at Hardingstone
“and Cogenhoe, and I have no reason to think there will be
“such a decrease as was shown at the last census.”

KETTERING RURAL.—“I estimated the population of
“the district under your control last year at 12,000, and as
“near as I can calculate that was about the population in the
“middle of 1903; for although two or three of the villages
“must have increased, others have probably slightly decreased.”

MIDDLETON CHENEY RURAL.—“The District is a purely
“Agricultural one, consisting of nine parishes with an
“evidently decreasing population, judging from the number
“of un-occupied houses in almost every parish.”

NORTHAMPTON RURAL.—“I have assumed that the
“population of the district is stationary; the only village in
“which building operations are in progress is Duston, and
“here it is only about sufficient to make up for the assumed
“deficiency in the rest of the district, as shewn by the last
“Census Returns.”

WELLINGBOROUGH RURAL. — “The Wellingborough
“Rural District consists of three sub-divisions, with an
“estimated population of 13,453, of which Earls Barton
“district contains 8,522, Finedon 2,357, and Higham Ferrers
“2,574.”

BIRTHS.

I regret to have to record a continuance in the fall of the birth-rate in the county, which has been unbroken from the year 1897. This may be readily seen from the accompanying chart, which is a sequel to the one which was introduced for the first time in the Annual Report for the County for the year 1902, after a complete revision of the birth and mortality rates for the years 1896 onwards.

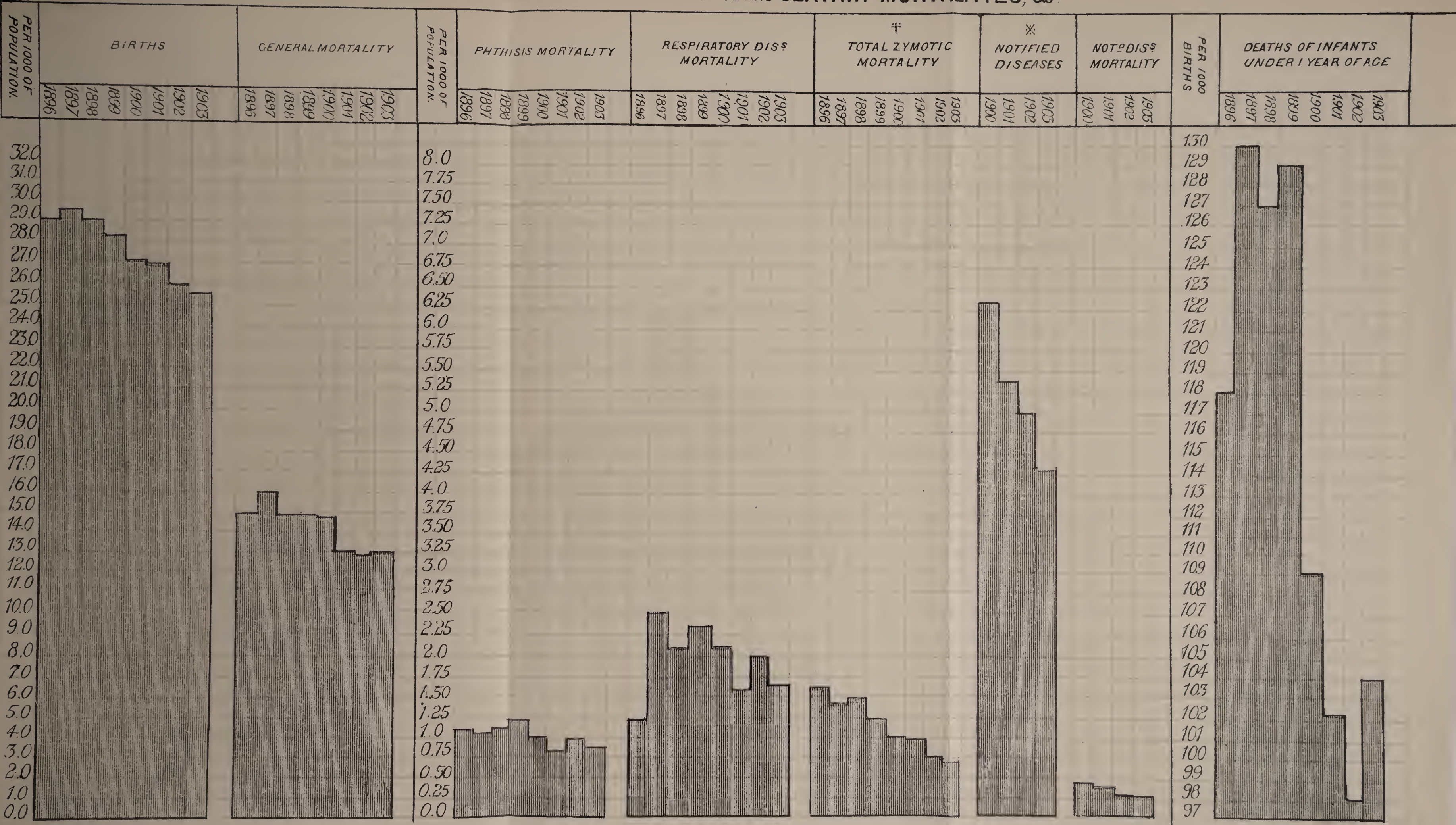
During the year 1903, there were 5,430 births, against 5,453 in the year 1902, registered in the Administrative County; of these, 2,592 were in the Combined Urban Districts, and 2,838 in the Combined Rural Districts.

The average birth-rate of the whole Administrative County per 1,000 of population, and of the Combined Urban and Rural Districts respectively, for the years 1896—1903, is shewn in the following table, together with, for purposes of comparison, the corresponding rates for England and Wales, and for the 76 large towns in England and Wales, taken from the Registrar-Generals' Returns :—

Areas.	1896	1897	1898	1899	1900	1901	1902	1903
Administrative County ...	29·08	29·62	29·14	28·54	27·33	27·15	25·96	25·53
Urban Districts ..	33·12	33·73	33·0	32·15	30·62	30·38	27·88	26·94
Rural Districts ...	26·75	27·18	26·61	26·10	25·04	24·08	24·43	24·38
England & Wales	29·7	29·6	29·4	29·2	28·9	28·5	28·6	28·4
* Large Towns in England & Wales.	30·7	30·7	30·3	30·2	29·4	29·2	30·0	29·6

* It is to be noted that the group of large towns numbers 76 from the year 1902; it consisted of 33 towns in preceding years.

CHART SHEWING RATES OF BIRTHS AND CERTAIN MORTALITIES, &c.



† INCLUSIVE OF DEATHS FROM DISEASES NOT NOTIFIABLE

* THE NOTIFICATION OF INFECTIOUS DISEASES ONLY BECAME COMPULSORY IN ALL DISTRICTS ON JANUARY 1ST 1900.

It will be seen from this that the birth-rate of the County for 1903 was markedly below the average for England and Wales, and that there has been a most notable fall of the birth-rate during the last two of the eight years shewn in the table. This fall appears to be coincident with depression in trade, and seems to point somewhat to a probable emigration of young persons in search of work elsewhere. This view is the more suggestive when the remarks of the Medical Officers of Health for the Kettering and Wellingborough Urban Districts in regard to Population are taken into account.

The birth-rate varied in the Urban Districts from 18·3 per 1,000 of the population in the Oundle District to 32·1 per 1,000 in the Irthlingborough District, while in the Rural Districts the variation was between 17·8 per 1,000 in the Oxendon District and 29·1 per 1,000 in the Northampton District. In reporting on the year 1902, I pointed out that the birth-rate for the Oundle Urban District was the lowest of any District in the County, and was so for the sixth year in succession; it is again the lowest of the Urban Districts, though not so low as the rates of the Gretton and Oxendon Rural Districts which are considerably below their averages.

Arranged in the order of their birth-rates the Urban Districts stand thus :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Irthlingborough ...	32·1	Wellingborough ...	25·7
Rushden ...	30·2	Daventry Borough	23·8
Finedon ...	29·4	Desborough ...	23·4
Kettering ...	28·2	Higham Ferrers	
Brackley Borough..	27·1	Borough ...	23·2
Raunds ...	25·8	Rothwell ...	19·7
		Oundle ...	18·3

The position of the Rural Districts in respect of their birth-rates is as follows :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Northampton	... 29·1	Wellingborough	... 24·7
Easton-on-the-Hill	28·7	Daventry	... 23·6
Oundle	... 28·2	Crick	... 22·3
Potterspury	... 26·5	Brackley	... 22·1
Kettering	... 25·8	Towcester	... 22·0
Thrapston	... 25·8	Middleton Cheney..	21·5
Hardingstone	... 25·4	Gretton	... 19·5
Brixworth	... 25·0	Oxendon	... 17·8

DEATHS.

General Mortality.—The Chart accompanying this Report shows that the rate of general mortality for the County was slightly higher than for the two years 1901 and 1902; but, at the same time, it was much below the average of the five years 1896—1900. Slight variations from year to year must always be anticipated, but the fact remains that a decided improvement has of recent years come about in regard to the general mortality of the County. The rate for the year 1903 was only fractionally above 13·0 per 1,000 of the estimated population, which estimate I believe to be fairly accurate, and I still look forward to the possibility of that rate of mortality being reduced to 12·0 per 1,000 of the population. To this end, care of infant life is a powerful factor, and the improvement of the conditions of the homes of the labouring classes is another. These are matters which require constant and unremitting attention at the hands of the local authorities, even when the circumstances of water supply and refuse disposal may be considered to be satisfactory. I trust, therefore, that they will be given the attention they deserve, and that the effect of such watchfulness will be productive of early good results.

The total number of deaths registered in the Administrative County during the year 1903 was 2,838, as against 2,785 in 1902; of these, 1,193 occurred in the combined Urban Districts, and 1,645 in the combined Rural Districts. Included in the gross number of deaths for the combined Rural Districts, however, are the deaths which were recorded in the Berry Wood Asylum in the Northampton Rural District, and also those in the Infectious Diseases Hospital of the County Borough of Northampton which is situated in the Brixworth Rural District; of the former, 43, and of the latter, 10, were of persons not belonging to the Administrative County, and these have, therefore, been excluded in working out the nett mortality-rate for the Administrative County in the subjoined table.

Districts.	1896	1897	1898	1899	1900	1901	1902	1903
Administrative County ...	15·02	16·13	15·11	15·13	14·96	13·05	12·96	13·09
England & Wales.	17·1	17·4	17·5	18·3	18·3	16·9	16·3	15·4
Large Towns in England & Wales.	18·9	19·0	19·0	20·2	19·5	18·6	17·4	16·3

The following are the chief of the remarks on the subject of the general mortality in the several districts to be found in the Annual Reports of the Medical Officers of Health :—

BRACKLEY BOROUGH.—“During the year 45 deaths occurred in the district; the nett death-rate (i.e. excluding five deaths of non-residents which occurred in public institutions) was 16·2 per 1,000. The average rate for the previous ten years was 13 per 1,000.”

DESBOROUGH URBAN.—“For the years 1893—1902 the nett average number of deaths and the average death-rate were 45 and 13·7 respectively. It will thus be observed that the death-rate of 14·96 for 1903 is somewhat in excess

“of the average, and this, no doubt, is, in a great measure, to
 “be accounted for by the deaths from Enteric Fever, besides
 “those from Suicide and Accident.”

FINEDON URBAN.—“The number of deaths registered
 “during the year was 59, giving a rate of 14 per thousand per
 “annum. The average rate since the formation of the
 “Council in 1895 has been 13·8 per thousand per annum.”

IRTHLINGBOROUGH URBAN.—“The number of deaths
 “registered during the year was 63, giving a death-rate of
 “13·3 per 1,000, compared with 60 deaths and a rate of 13·2
 “last year; but, as two of the natural deaths were of visitors,
 “and one case of suicide and one of accidental death were of
 “boys not belonging to the parish, the total number is thus
 “reduced to 59, giving a rate of 12·4.”

OUNCLE URBAN.—The gross total of deaths is given as
 50: “as, however, eleven of these latter were deaths of non-
 “residents in the locality, the total deaths of the district
 “number 39, giving a death-rate of 16·2 per 1,000, higher
 “than our decennial average.”

WELLINGBOROUGH URBAN.—“The total number of
 “deaths in the district was 232 giving a rate of 11·68 per
 “1,000, but 19 of these deaths occurred in non-residents,
 “making the total deaths of residents 213 with a death-rate
 “of only 10·7. The rate 11·68 is the smallest for the last ten
 “years except that in 1902 which was 11·4, but the rate for
 “residents in that year was 11·1 as against 10·7 in 1903. So
 “the death-rate for 1903 is really the lowest on record for
 “this district.”

BRIXWORTH RURAL.—“Thirty three per cent. of the
 “total deaths of residents of the District occurred above the
 “age of 65, and, for the most part, were dependent on causes
 “due to old age.”

CRICK RURAL.—“The deaths numbered 41, and consisted of 21 males and 20 females, representing a death-rate of 17·9 per 1,000, but adding the deaths of 5 persons belonging to the district which occurred in the Union Workhouse, Rugby, the death-rate is more correctly represented at 20·1 per 1,000. This death-rate is considerably above the average, but is entirely due to the large proportion of deaths which occurred among very old people.”

DAVENTRY RURAL.—“The number of deaths registered at all ages was 174; Males 89; Females 85; this gives a death-rate of 12·9 per 1,000, which is the lowest for the last six years, and in my opinion most satisfactory.”

HARDINGSTONE RURAL.—“The total number of deaths at all ages was only 94, which is exactly the same number as in 1902, and gives the same death-rate of 11·9 per 1,000. These two years, and in 1900 where there were only 93 deaths, are much lower than any of the previous years, the average being 117, with a death-rate of 14 per 1,000.”

NORTHAMPTON RURAL.—“The total number of deaths was, for the whole district, 166, giving a ratio per 1,000 of 26; of these deaths, however, 99 occurred in Berry Wood Asylum, amongst persons not previously resident in the district, so that, by deducting these, we find that there were only 67 deaths of persons really residing in the district, with the low death-rate of 12·5 per 1,000. Last year there were only 65 deaths in this district, and these two years show considerably fewer deaths than in any of the previous ten years. The highest death-rate was in 1897, when there were 98 deaths and a mortality rate of 17·3 per 1,000. There was no marked decline in any particular district; each showed a considerably lower death-rate than the average for the past ten years.”

WELLINGBOROUGH RURAL.—“The number of deaths registered have been 158 for the whole district—99 for

“Earls Barton, 38 for Finedon, and 21 for Higham Ferrers. “This gives a death-rate per 1,000 of 11·74 for the whole “district, or 11·61 for Earls Barton, 16·12 for Finedon, and “8·15 for Higham Ferrers.”

The nett death-rate varied in the Urban Districts from 10·4 per 1,000 of the population in the Rushden District, to 16·2 per 1,000 of the population in Brackley Borough and the Oundle District. In the Rural Districts, the variation in the death-rate was from 9·7 per 1,000 of population in the Gretton District, to 20·6 per 1,000 of population in the Crick District.

Arranged in order of their nett death-rates the Urban Districts stand thus :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Rushden	... 10·4	Irthlingborough	... 13·3
Raunds	... 10·6	Finedon	... 14·0
Rothwell	... 10·8	Desborough	... 14·9
Wellingborough	... 10·9	Daventry Borough	16·1
Kettering	... 11·0	Brackley Borough	16·2
Higham Ferrers		Oundle	... 16·2
Borough	... 11·8		

The position of the Rural Districts in respect of their nett death-rates is as follows :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Gretton	... 9·7	Easton-on-the-Hill	13·6
Wellingborough	... 12·0	Brackley	... 14·3
Hardingstone	... 12·4	Oxendon	... 14·5
Thrapston	... 12·5	Brixworth	... 15·0
Northampton	... 12·7	Towcester	... 15·1
Potterspury	... 12·7	Middleton Cheney	15·3
Kettering	... 12·9	Oundle	... 19·3
Daventry	... 13·3	Crick	... 20·6

Infantile Mortality.—I regret to have to report that the slight rise in the general mortality rate during 1903, as compared with the two preceding years, has been accompanied by a corresponding rise in the infantile mortality. In the year 1902 this mortality was for the first time satisfactorily brought down to less than 10 per cent. of the births in the county, during 1903 it rose again to slightly over 10 per cent. As I have already remarked, I hope that every effort will be made to keep the subject of the care of infants prominently before those responsible for their rearing, and that the rate of their mortality in this county in any year may in the future never again reach the average for the four years 1896—1899. The rates for the Urban Districts of Raunds, Irthlingborough, Finedon, and Rothwell are all much too high when compared with other Urban Districts such as Rushden, Wellingborough, Kettering, and Desborough, and, though the excuse is sometimes made that such excessive rates are occasioned by deaths of prematurely born infants, it cannot be overlooked that some measure of that accident may have been preventible by greater care of their health on the part of the mothers during their pregnancy.

The average infantile death-rate for the whole Administrative County per 1,000 births, and of the Combined Urban and Rural Districts respectively, for the years 1896—1903, is shewn in the following table, together with, for purposes of comparison, the corresponding rates for England and Wales, and for the large towns in England and Wales, taken from the Registrar-General's Returns :—

Districts.	1896	1897	1898	1899	1900	1901	1902	1903
Administrative County ...	118	130	127	129	109	102	98	103
Urban Districts ..	131	137	151	143	126	109	116	114
Rural Districts ...	108	125	107	118	95	96	80	92
England & Wales.	148	156	160	163	154	151	133	132
Large Towns in England & Wales.	168	176	178	181	172	168	145	144

The following extracts from the Annual Reports of the Medical Officers of Health on this subject will be found of interest :—

HIGHAM FERRERS BOROUGH.—“The infantile death-rate was 101·6 per 1,000 births, but the exclusion of the 3 deaths due to premature birth brings it down to 65·12. I am pleased to note a sustained improvement in this death-rate for the last four years, and am led to hope that there is an increasing knowledge amongst mothers of the importance of careful feeding, and hygienic management of their infants.”

DESBOROUGH URBAN.—“The number of deaths below the age of one year was 10, equivalent to an Infantile Mortality of 113 deaths to 1,000 births registered. This is higher than the previous year, which was phenomenally low, but yet below the average for the years 1893—1902, viz., 134. The Infant rate of mortality can thus be said to be of a satisfactory character, and indicative of a healthy tone permeating the minds of mothers in regard to the treatment of their offspring.”

FINEDON URBAN.—“The total number of deaths included 20 children under 1 year of age, which gives an infantile death-rate of 161·2 per thousand births registered.”

IRTHLINGBOROUGH URBAN.—“The number of deaths under 1 year of age, viz., 23, works out at 151·3 per 1,000 births registered, compared with a rate of 132·9 last year. This, of course, is an exceedingly high death-rate for an Urban District, but when it is considered that 8 of these deaths were in children prematurely born, all of whom died within 24 hours of birth, and 7 more under 1 month as a result of either congenital weakness or disease, the figures are not quite so startling. . . . If the 8 Premature Births are taken from the total, the rate works out at 98 per 1,000 births, which is comparatively low.”

OUNDLE URBAN. — “Of the deaths 8 were those of
 “children under one year of age, the largest infantile mortality
 “since 1892, three deaths being due to premature birth, and a
 “fourth to the effects of premature birth.”

RAUNDS URBAN.—“The deaths of children under the
 “age of one year numbered 14, as against 12 last year—this
 “gives an infantile death-rate of 128·4, the highest rate since
 “1898, when it reached 130·4 per 1,000 births registered. Of
 “these 14 deaths, 9 were under the age of three months,
 “exactly the same number as that of 1902. The principal
 “causes of death were Tuberculosis, Acute Bronchitis, Teething
 “Convulsions, and one from Measles and Bronchitis, the
 “measles having been imported from London.”

BRACKLEY RURAL.—“The infant death-rate was un-
 “usually low, being 69 per 1,000 calculated on the number of
 “births registered.”

BRIXWORTH RURAL. — “In 1903 there has been an
 “increase in the death-rate of infants under one year by ten.
 “Deaths due to premature births were less than in 1902. I
 “cannot help being struck by the larger increase of returns
 “showing the cause of deaths as Marasmus. I am afraid this
 “condition is more often than not due to ignorance, and
 “sometimes carelessness on the part of the mother as to
 “proper feeding, &c., and a want of cleanliness in looking
 “after the children.”

CRICK RURAL.—“The small number of deaths of infants
 “under one year of age represents the exceedingly low rate of
 “infant mortality of 58 per 1,000 births.”

DAVENTRY RURAL.—“The Infant mortality under one
 “year was 82 per 1,000 Births; this strange to say is exactly
 “the same as in the previous year, and may be looked upon
 “as satisfactory.”

HARDINGSTONE RURAL.—“The number of deaths in children under one year of age was 14; higher than in either of the previous three years, when the birth-rate was so small, but considerably lower than in the years before that (1893—99), when the number was at the least 20, and in 1893 as much as 30. The rate of mortality in this division per 1,000 births registered is 70, very nearly as low as in the previous years when the number of infantile deaths was so small and considerably below the average for the last ten years (90·8). . . There were no deaths in children under one year of age in the Hardingstone district, 11 in the Brafield district, which is very excessive, and only 3 in the Wootton district, which again is below the average.”

NORTHAMPTON RURAL.—“The number of deaths in children under one year of age was 19, giving a ratio per 1,000 births registered of 121. Last year there were only 17 such deaths, but the number of children born was so small that the ratio was 122, slightly in excess of the present year. The ratio has been as low as 94 and 98, and as high as 171.”

WELLINGBOROUGH RURAL.—“The infant mortality has been 117·11 per 1,000 births, or 130·84 for Earls Barton, 106·06 for Finedon, and 75·47 for Higham Ferrers.”

The infantile mortality-rate varied in the Urban Districts from 77·7 per 1,000 births in the Borough of Daventry, to 206·1 per 1,000 births in the Rothwell District. In the Rural Districts the variation in this mortality was from 47·6 per 1,000 births in the Easton-on-the-Hill District, to 121·7 per 1,000 births in the Northampton District.

Arranged in order of their infantile mortality-rates the Urban Districts stand thus :—

	<i>Per 1,000 Births.</i>		<i>Per 1,000 Births.</i>
Daventry Borough	77·7	Brackley Borough	119·4
Rushden ...	91·5	Raunds ...	128·4
Wellingborough ...	97·8	Irthlingborough ...	151·3
Higham Ferrers Borough ...	101·6	Finedon ...	161·2
Kettering ...	112·1	Oundle ...	181·8
Desborough ...	113·6	Rothwell ...	206·1

The position of the Rural Districts in respect of their infantile mortality-rates is as follows :—

	<i>Per 1,000 Births.</i>		<i>Per 1,000 Births.</i>
Easton-on-the-Hill	47·6	Potterspury ...	79·1
Oxendon ...	53·3	Daventry ...	82·0
Middleton Cheney	57·6	Thrapston ...	90·5
Crick ...	58·8	Oundle ...	109·8
Gretton ...	66·6	Towcester ...	112·5
Brackley ...	69·1	Brixworth ...	114·8
Hardingstone ...	70·0	Wellingborough ...	117·1
Kettering ...	77·4	Northampton ...	121·7

Phthisis Mortality.—I am very pleased to be able to report that there were 32 fewer deaths from Phthisis during the year 1903 than in the previous year, the numbers being 182 for 1903, and 214 for 1902. This is the lowest number of deaths from phthisis in any year since 1896, with the single exception of 1901 when the deaths were 178 or 4 less than in 1903; but, inasmuch as the estimated population of these two years was different, it is satisfactory to be able to record that the rate of mortality per 1,000 of the population is the same for both years and the lowest level reached in the eight years 1896—1903. The total number of deaths registered as due to phthisis in the Administrative County during the year being 182, it only remains to be said that, after allocating to the respective districts the deaths from that

disease of their residents which occurred in the Berry Wood Asylum, 93 belonged to the combined Urban Districts and 89 to the combined Rural Districts. The number which occurred in the Berry Wood Asylum was 11, as against 15 in 1902. Of the total deaths from phthisis 2·74 per cent. were of children under five years of age, as against 3·27 per cent. in 1902, 2·8 per cent. in 1901, 5·02 per cent. in 1900, 5·34 per cent. in 1899, 9·6 per cent. in 1898, 5·85 per cent. in 1897, and 8·15 per cent. in the year 1896. It thus appears that while this child mortality was less than in any of the previous seven years, it is also suggestive by comparison of some increased care of the infant in the home.

The following table shows the number of deaths from phthisis and the rate per 1,000 of the population for the whole Administrative County for the eight years 1896—1903 :—

Area.	Phthisis.	1896	1897	1898	1899	1900	1901	1902	1903
Adminis- trative County.	No. of Deaths.	233	222	229	243	219	178	214	182
	Rate per 1,000.	1·17	1·10	1·13	1·19	1·06	0·85	1·01	0·85

The following are the more important references to the subject of this mortality in the Reports of the Medical Officers of Health :—

HIGHAM FERRERS BOROUGH. — “ There were three
“ deaths from phthisis during the year, giving a death-rate of
“ 1·18 per 1,000, which is about the average for the county.
“ Two of the cases occurred in the same house; the wife in
“ all probability contracting the disease from the husband,
“ and dying a few months afterwards. Such cases as these
“ suggest to us the importance of a wider appreciation of the
“ means of preventing the spread of this truly infectious
“ disease, which a better knowledge of the causes that produce
“ it has provided us with.”

DESBOROUGH URBAN.—“The deaths recorded as due to
 “Phthisis were four in number, giving a death-rate of 1·06
 “per 1,000. For the year 1902 the corresponding figures
 “were 6 and 1·67 per 1,000. This diminution in the number
 “of deaths from such a terrible disease as Phthisis is certainly
 “a matter for congratulation. It is to be feared, however,
 “that the death-rate from Consumption in a working class
 “district such as this will always have a tendency to be high
 “so long as no opportunities are afforded for the treatment of
 “the disease—particularly in its early stages—in some special
 “institution.”

IRTHLINGBOROUGH URBAN.—“Phthisis or Consumption
 “of the lungs caused 9 deaths, giving a rate of 1·8 per 1,000,
 “compared with 7 deaths and a rate of 1·54 last year. Seven
 “of these deaths took place between the ages of 25 and 65,
 “and 2 over that age. It is rather remarkable that no death
 “took place under 25 years. Last year 5 out of the 7 occurred
 “under that age. . . . I may point out that the average age
 “of seven of the deaths from consumption, between the ages
 “of 25 and 50, was 38 years, this dire disease thus carrying
 “off its victims in the prime of life, just when they should
 “be of the greatest service to their families and the com-
 “munity. The old adage, ‘Familiarity breeds contempt,’
 “is specially applicable to this disease. If an epidemic of
 “Typhoid Fever or Diphtheria were to break out in the town
 “and even a few deaths resulted, a great outcry would be
 “raised and extreme measures taken to prevent its spread or
 “recurrence; whereas consumption is continually amongst
 “us, causing, at least for the last 2 years, 20 per cent. of the
 “death-rate, and yet the public are apparently unconcerned
 “in its prevention. As I stated in my report last year, the
 “Sanatorium treatment is considered the most hopeful
 “method of cure; but this, owing to its expense, is beyond
 “the means of the ordinary patient; therefore in grappling
 “with the disease preventive measures should take a more

“important part than they have hitherto done. Our aim
 “should be to maintain good bodily health, and thus increase
 “the disease-resisting power of the individual. This can only
 “be procured by due attention to the laws of health—good
 “ventilation in the home and factory, plenty of exercise in
 “the open air, and moderation in eating and drinking.”

KETTERING URBAN.—“The number of deaths from
 “Phthisis is 24, instead of last year’s record of 38 : this is, of
 “course, pleasing as far as it goes, but a sudden great fall in
 “the mortality of this disease is not so satisfactory as a gradual
 “diminution for a series of years, and it is greatly to be hoped
 “that this gradual diminution will take place, not only in this
 “district but all over the country. Much has been done in
 “this neighbourhood in the way of making known to all
 “classes the latest means discovered for the prevention and
 “treatment of this terribly fatal disease, and no doubt this
 “knowledge will gradually be the means of lessening the
 “mortality caused by it. The fine building erected in the
 “grounds of the Union Workhouse, for the open-air treatment
 “of this disease, is approaching completion, and will be quite
 “up to date in every respect, and, with our present population,
 “more than sufficient to accommodate those suffering from
 “this disease ; and Nurses are already being trained for the
 “purpose of attending to the sufferers.”

RAUNDS URBAN.—“During 1903 there has not been a
 “single death from Phthisis Pulmonalis, and only one during
 “1902. For the two years prior to that date the deaths from
 “this cause were 4 and 16, and we can only hope that the
 “better state of matters as regards this disease may be kept
 “up in the years to come.”

The phthisis death-rate varied in the Urban Districts from
 0·0 per 1,000 of the population in the Borough of Brackley
 and Raunds District, to 2·38 per 1,000 of population in the

Borough of Daventry. In the Rural Districts, the variation in this mortality was from 0·0 per 1,000 of population in the Crick and Middleton Cheney Districts, to 1·39 per 1,000 of population in the Oundle District.

Arranged in order of their Phthisis death-rates the Urban Districts stand thus :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Brackley Borough	0·0	Desborough	... 1·06
Raunds	... 0·0	Rushden	... 1·12
Rothwell	... 0·61	Higham Ferrers	
Kettering	... 0·8	Borough	... 1·18
Finedon	... 0·94	Oundle	... 1·24
Wellingborough	... 0·95	Irthlingborough	... 1·9
		Daventry Borough	2·38

The position of the Rural Districts in respect of their Phthisis death-rates is as follows :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Crick	... 0·0	Northampton	... 0·74
Middleton Cheney	0·0	Potterspury	... 0·76
Towcester	... 0·57	Thrapston	... 0·78
Gretton	... 0·65	Brackley	... 0·83
Kettering	... 0·66	Hardingstone	... 0·89
Brixworth	... 0·67	Wellingborough	... 0·96
Oxendon	... 0·71	Easton-on-the-Hill	1·36
Daventry	... 0·74	Oundle	... 1·39

Respiratory Diseases Mortality.—With the exception of the year 1901, the deaths from the respiratory diseases were in 1903 fewer than in any of the years 1896-1902. This fact becomes an interesting one in view of the wet and cheerless summer months which were so marked a feature of

the year 1903. As compared with the seven years 1896-1902, the rate of mortality for 1903 was $\cdot 40$ per 1,000 of population less than the average rate for those years. There were in all 359 deaths from respiratory diseases registered in the Administrative County during the year 1903; of these 155 occurred in the combined Urban Districts and 204 in the combined Rural Districts, after allocating to their respective districts the deaths of those which occurred in the Berry Wood Asylum. Of the total deaths from bronchitis, pneumonia, and pleurisy, 165 or 45·96 per cent. were recorded as being children under five years of age; of these, 83, or 50·3 per cent. were in the Urban Districts, and 82, or 49·7 per cent. were in the Rural Districts.

The following table shows the number of deaths from the respiratory diseases and the rate per 1,000 of the population for the whole Administrative County for the eight years 1896—1903 :—

Area.	Respiratory Diseases.	1896	1897	1898	1899	1900	1901	1902	1903
Adminis- trative County.	No. of Deaths.	380	497	432	467	450	337	415	359
	Rate per 1,000.	1·91	2·48	2·13	2·29	2·18	1·62	1·97	1·68

The death-rate for Respiratory Diseases varied in the Urban Districts from 1·02 per 1,000 of population in the Rothwell District, to 2·64 per 1,000 of population in Daventry Borough. In the Rural Districts, the variation in this mortality was from 0·0 per 1,000 of population in the Easton-on-the-Hill District, to 3·07 per 1,000 of population in the Crick District.

Arranged in order of their death-rates for Respiratory Diseases the Urban Districts stand thus :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Rothwell	... 1.02	Desborough	... 1.59
Wellingborough	... 1.15	Finedon	... 1.66
Higham Ferrers		Kettering	... 1.96
Borough	... 1.18	Brackley Borough..	2.02
Oundle	... 1.24	Irthlingborough	... 2.11
Rushden	... 1.34	Daventry Borough	2.64
Raunds	... 1.42		

The position of the Rural Districts in respect of their death-rates from Respiratory Diseases is as follows :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Easton-on-the-Hill	0.0	Brackley	... 1.67
Oxendon	... 0.95	Northampton	... 1.87
Hardingstone	... 1.01	Oundle	... 2.16
Wellingborough	... 1.11	Brixworth	... 2.28
Potterspury	... 1.14	Daventry	... 2.53
Kettering	... 1.25	Towcester	... 2.76
Gretton	... 1.3	Middleton Cheney..	2.89
Thrapston	... 1.36	Crick	... 3.07

General Zymotic Mortality.—I am glad to be able to record the continuance of the fall in the annual general zymotic mortality to which I was able to call attention in my last report. This mortality is inclusive of deaths from Measles, Whooping Cough, and Diarrhoea, in addition to those from all the Notifiable Diseases, and the chart shows the fall satisfactorily, the rate per 1,000 of population for 1903, being 0.72, as against 0.77 per 1,000 of population in 1902. For further illustration of the position with regard to the Notifiable Diseases only, additional representations are placed on the chart, from which it may be gathered that there were 913 cases notified, or at the rate of 4.29 per 1,000 of the population, and that of these 56 died, or at the rate of 0.26 per 1,000 of

the population, as against 0·27 per 1,000 in 1902. These slight declines in mortality, succeeding as they do the lowest levels previously reached, are ground for considerable satisfaction as indications of the progress of public health in the county.

The total number of deaths registered as having occurred in the Administrative County from the zymotic diseases,—inclusive of Measles, Whooping Cough, and Diarrhœa,—during the year 1903, was 154. Of these, 74 were in the combined Urban Districts and 80 were in the combined Rural Districts. Of the total deaths from the zymotic diseases, 109, or 70·7 per cent., were children under five years of age ; of these, 57, or 52·29 per cent. were in the Urban Districts, and 52, or 47·7 per cent. were in the Rural Districts.

The following table shows the number of deaths from the general zymotic diseases and the rate per 1,000 of the population for the whole Administrative County for the eight years 1896—1903 :—

Area.	General Zymotic Diseases.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.
Adminis- trative County.	No. of Deaths.	331	288	293	255	217	187	162	154
	Rate per 1,000.	1·66	1·43	1·45	1·25	1·05	0·90	0·77	0·72

The general zymotic death-rate varied in the Urban Districts from 0·0 per 1,000 of population in the Daventry and Higham Ferrers Boroughs to 1·33 per 1,000 of population in the Desborough District. In the Rural Districts the variation in this mortality was from 0·0 per 1,000 of population in the Easton-on-the-Hill District, to 1·43 per 1,000 of population in the Brixworth District.

Arranged in order of their death-rates from Zymotic Diseases, the Urban Districts stand thus :—

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Daventry Borough	0·0	Brackley Borough...	0·81
Higham Ferrers Borough	... 0·0	Oundle	... 0·83
Irthlingborough	... 0·21	Wellingborough	... 0·85
Finedon	... 0·23	Rushden	... 0·89
Raunds	... 0·47	Kettering	... 0·96
Rothwell	... 0·61	Desborough	... 1·33

The position of the Rural Districts in respect of their death-rates from Zymotic Diseases is as follows :

	<i>Per 1,000 of Population.</i>		<i>Per 1,000 of Population.</i>
Easton-on-the-Hill..	0·0	Kettering	... 0·75
Thrapston	... 0·19	Middleton Cheney...	0·82
Daventry	... 0·29	Crick	... 0·87
Potterspury	... 0·38	Oundle	... 0·92
Brackley	... 0·41	Northampton	... 0·93
Towcester	... 0·47	Wellingborough	... 0·96
Hardingstone	... 0·5	Oxendon	... 1·18
Gretton	... 0·65	Brixworth	... 1·43

SPECIAL ZYMOTIC DISEASES AND MORTALITY.

Small Pox.—Small-pox invaded eight districts in the County, the disease in every case being introduced from outside them,—in four by tramps. There were in all 16 cases of the disease during the year, and they were distributed as follows :—in the Borough of Daventry, 2 cases with 1 death ; in the Kettering Urban District, 7 cases with 1 death ; in the Raunds Urban District, 1 case which died ; in the Rothwell Urban District, 2 cases which both recovered ; and one each in the Brixworth, Gretton, Hardingstone, and Thrapston Rural Districts which all recovered. The mortality-rate from

the disease for the Administrative County amounted to 18·75 per cent. of the cases, as against 21·42 per cent. in the year 1902. The isolation of all these cases was effected very promptly, and, in connection with several of the cases, the system of inter-notification which is now well established has proved most useful. The question, however, of the dissemination of small-pox by tramps is becoming acute, and the desirability of compelling the vaccination of all tramps on their arrival at a Casual Ward, unless they can produce evidence of satisfactory re-vaccination, must soon receive the attention of the Legislature. During the year 1903, one tramp was found to have slept in the Casual Wards of six Unions outside this County, before his arrival in it, and while in the latent stage of the disease, another had been similarly in nine, and a third man, in the like condition, had been employed in three districts of the County after exposure to infection at Kettering. It is most satisfactory to know that the measures taken to prevent spread of the disease proved so generally satisfactory, as the following records of the Medical Officers of Health indicate :—

BOROUGH OF DAVENTRY.—The two cases, both tramps, were found at the Workhouse. “The former was reported ill on the 28th January, and was removed at once to the Sanatorium. He had been well vaccinated earlier in life and recovered. The latter case was found to be suffering from confluent small-pox on 5th March, and was removed immediately to the Sanatorium where he died a few days later. He had never been vaccinated.”

KETTERING URBAN.—“On April 24th a case of Small-pox occurred in Catesby Street. There is little doubt that the infection in this case arose from the position of the residence of the person attacked, which adjoins the Fair Ground, where a large fair had been held a short time before the illness occurred. A building had been prepared

“for such a contingency several months before, and always
 “kept aired and ready for use. Two caretakers also had been
 “engaged, man and wife, to take charge whenever required.
 “In a few hours the patient was comfortably installed in this
 “building, and every provision made for her comfort. Every
 “person with whom she had been in company was at once
 “removed to the Rural Block of the Infectious Hospital,
 “which had been reserved for such an emergency, and
 “remained there until all fear of infection was over. This
 “patient had a comparatively mild attack, and recovered
 “completely. Two days afterwards, on April 26th, two cases
 “of this disease occurred in the common Lodging House in
 “Newland Street, and had doubtless been infected by some
 “tramp who had temporarily stayed in the Lodging House
 “about a fortnight previously. In a few hours both of these
 “patients were removed to the Small Pox Hospital. The
 “Lodging House itself was closed, and all the inmates con-
 “fined within its boundaries, being well supplied with food,
 “and having no communication with anyone outside until all
 “possibility of infection had passed. On April 29th another
 “inmate of this Lodging House developed Small Pox, and was
 “immediatly removed to the Hospital, and on May 8th two
 “more cases were also removed. At the latter end of April I
 “received a telegram from Bath, stating that a man who had
 “been in a ward in the Mineral Water Hospital there had
 “been exposed to the infection of Small-pox, and was on his
 “way back to Kettering. This man was met at Kettering
 “Station and conveyed at once to the Rural Block of the
 “Infectious Hospital, without having any communication
 “with anyone in the town. On April 26th he was taken ill
 “with Small-pox, and was immediately conveyed to the
 “Small-pox Hospital. This was the last case which occurred,
 “and at the end of a fortnight all the contacts at the Rural
 “Block were set at liberty, the same step being taken with
 “the Lodging House contacts at the end of a fortnight after

“ the removal of the last case. Both buildings were, of course,
 “ thoroughly disinfected, all articles likely to retain infection
 “ were burned. One of the cases from the Lodging House
 “ proved fatal, and every possible precaution was taken as to his
 “ burial. All the other cases recovered. A very large number
 “ of people availed themselves of Vaccination and re-Vaccina-
 “ tion. In every case the severity of the attack of Small-pox
 “ was in almost exact ratio to the appearances of previous
 “ Vaccination ; the fatal case shewed no signs at all of Vacci-
 “ nation, and none of the others had been re-Vaccinated until
 “ the outbreak occurred. Although the steps taken so success-
 “ fully to prevent the spread of the disease were necessarily
 “ somewhat expensive, the amount expended was very small
 “ indeed in comparison with that in other places which were
 “ visited by this disease.”

RAUNDS URBAN.—“The Hæmorrhagic Small-pox case was
 “ imported by a young man, aged 32, who had tramped from
 “ Mansfield where he lived, and at which town Small-pox
 “ had then been prevalent for 6 weeks, and was still going on
 “ when he left. After leaving Mansfield, he slept in Notting-
 “ ham, Leicester, Kettering, Ringstead, and Raunds. I saw
 “ him on the 20th April, and diagnosed Hæmorrhagic
 “ Small-pox, and to make my diagnosis more certain I sent
 “ for Dr. Buckley of Thrapston, who had a large experience
 “ in this deadly type of the disease in China. He had no
 “ doubt about the diagnosis and reported it at once. There
 “ being no Isolation Hospital in Raunds, I had at once new
 “ beds, bedding and blankets, brought from the house of Mr.
 “ Corby, Clerk to the Council, who had kindly allowed them
 “ to be stored there till required. They were warmed by Mr.
 “ Yorke, Sanitary Inspector, at his own house for six hours,
 “ and the man was removed by myself and Mr. Yorke in a
 “ closed carriage to a new hospital tent erected for the purpose,
 “ with raised wooden floor, well lighted and very warm and
 “ comfortable. We left him after 12 o’clock at night, when

“he said he felt very comfortable—he had everything neces-
 “sary to eat or drink at his bedside, and a good light
 “burning. He was visited every few hours all night, and
 “each time said he was doing very well; he was spoken to
 “after 7 o’clock in the morning, but must have suddenly suc-
 “cumbed between that time and 9 o’clock—probably from
 “the effects of internal hæmorrhage—the whole body being
 “covered with dark purpuric spots, and blood was oozing
 “from the mucous membrane of his cheeks and lips for some
 “days before. Although he walked about up to the night of
 “the 20th, he died on the 21st of April. I vaccinated and
 “isolated everyone living in the houses in which he slept or
 “had his food in Raunds, as well as the servants of the Council
 “and others who had come in contact with the body, and
 “having no disinfecter here the clothes and bedding with
 “which he had come in contact were all burned by Mr. Yorke,
 “and the houses thoroughly disinfected. I at once communi-
 “cated with the Medical Officers of Health of every place he
 “had been in.”

ROTHWELL URBAN.—“The incidence of this loathsome
 “disease in our midst is curious and historically interesting.
 “The first case was reported on the 19th of last November.
 “The patient was a Captain in the Salvation Army, and had
 “only just come to Rothwell from a place called Bulwell,
 “near Nottingham. His story is graphic enough and to the
 “point. He remembered shaking hands with a man before
 “he left on his journey, to Rothwell. This man had con-
 “tracted Small-pox from a tramp, and died from its effects.
 “What became of the tramp is not told, but I have no doubt
 “he tramped on his way and scattered the disease right and
 “left. During the summer of last year when Small-pox was
 “in both Kettering and Harborough, the Rothwell Urban
 “Council had hired a hospital tent, and made all arrange-
 “ments for its being sent down from London at a moment’s

“notice. This idea, or rather arrangement, was abandoned
 “as there seemed no immediate necessity for this special
 “hospital need. We were mistaken and premature. The first
 “case was reported on Thursday, November 19th, and on
 “Friday an urgent meeting of the Urban Council was called,
 “when it was decided to build a wooden Isolation Hospital,
 “on the land belonging to the Council, near the Shotwell
 “Mill. This resolution was passed on Friday evening (the
 “20th), and, notwithstanding the fact that during the night it
 “was blowing a regular hurricane, by Saturday morning (the
 “21st) the Isolation Hospital was practically completed. That
 “afternoon the patient was removed to it, together with his
 “wife and a friend who volunteered to go and help to nurse him.
 “In the meantime his house in New Street was shut up and
 “the bedding, carpets, &c., were burned and the house itself
 “thoroughly disinfected. This important work was carried
 “out most efficiently by our new Surveyor, Mr. T. Betts. All
 “those who had been in contact with our patient in any way
 “were watched as closely as possible, and prohibited from
 “going to work, and as many as would submit were vacci-
 “nated. The second case of Small-pox occurred on the 4th of
 “December. The patient was one of those who had been in
 “contact with the previous case. She was a married woman,
 “and lived in New Street, next door to the Salvation Army
 “Barracks. She was at once removed to the Isolation Hospital,
 “and all the members of her family were at once re-vaccinated,
 “also all the families in the same yard with, I think, one
 “exception. I am firmly convinced that this step saved any
 “of the rest of her family from falling, as they had all been
 “in contact with her up to the time the rash appeared. The
 “two attendants on the first case were, I may add, both im-
 “mediately re-vaccinated, and, though they were both in
 “contact with the disease from first to last, they did not take
 “any harm.”

BRIXWORTH RURAL.—In regard to the case of Small-pox, “ This was a contact from a case that had previously occurred amongst four steam ploughmen stationed at Brampton. On arriving at Drage’s Farm, one of the men developed the disease, and walked into Northampton to get some medicine ; he was at once brought before the Borough Medical Officer, who notified me, and detained the man in Northampton. The remaining contacts were isolated in their hut and were vaccinated. Some days after one of them developed the disease, and, through the courtesy of the Borough Medical Officer, he was taken to the Borough Isolation Hospital, at the same time the Medical Officer notified he could take no further cases. We had therefore to erect and equip a Tent Hospital, which was standing for some two months. Happily, we had no use for it.” The Medical Officer of Health for the Borough of Northampton, having at once informed me of the case above referred to which had been brought to his notice on April 29th, I found that the man had stayed for some days up to April 12th at the common lodging-house at Kettering where cases of small-pox were notified on April 26th. He was 51 years of age, and declared that his only symptoms of illness had been (*a*) headache on April 26th, and (*b*) a rash on April 28th. On and after April 12th he had been employed as a steam ploughman on two farms in the Towcester and Potterspury Rural Districts before passing on into the Brixworth District. I, therefore, telegraphed to the Medical Officers of Health for those districts, who at once took every step in their power to counteract the influence of this man’s presence there, and except that the contact in the Brixworth District was already in the latent stage of the disease, they were happily successful.

GRETTON RURAL.—“ A case of Small-pox was reported at Gretton, on 11th February. Its origin was in the first instance obscure ; but I soon received information from the Health Officer at Derby, which left no doubt as to its having

“ been imported from that town. The patient who conveyed
 “ the infection appears to have been attacked on her journey
 “ from Derby to Gretton, where she remained from January
 “ 10th to 24th. Her illness was so mild as to have passed un-
 “ recognised until 10th February, when a case occurred in her
 “ house at Derby. Within a few days two more cases occurred
 “ in the same house. The fact that only one person in Gretton
 “ was attacked must be regarded as fortunate, and was chiefly
 “ attributable to the comparatively mild nature of the in-
 “ fection, which does not, at any time, appear to have spread
 “ beyond the house in which the patient was residing. The
 “ administrative control of the disease consisted primarily in
 “ the immediate vaccination of all persons exposed to infection,
 “ and of as many others in the vicinity as possible. It is to
 “ the credit of the people of Gretton that everyone whom I
 “ visited, in order to advise vaccination, attended courteously
 “ to what I had to say, and that almost all were eager to accept
 “ my counsel. I met with no “conscientious objectors,” a
 “ class of persons who possess more political zeal than know-
 “ ledge of pathology, and whose salient attribute on such
 “ occasions is incivility. Your immunity from the element
 “ leads me to unequivocally assure you that Small-pox need
 “ never spread through your district, and that its Hospital
 “ Isolation, though of course always desirable, is in no wise
 “ essential. The patient was isolated in his own cottage in
 “ the village, which at the conclusion of the case was cleansed
 “ and disinfected. Beds were burnt, and compensation was
 “ paid for such financial loss as the patient’s family incurred
 “ through complying with my instructions and those of his
 “ physician.”

HARDINGSTONE RURAL.—“The case of small-pox oc-
 “ curred in a Hardingstone man who worked at a shoe factory
 “ in Northampton where several other men were attacked, and
 “ the Medical Officer of Health for the town attributed it to
 “ handling foreign hides, so that the disease was not contracted

“in this district. . . The case was reported to me about
 “10.30 p.m. on May 5th, and by mid-night the man and all
 “living in the house (four in number) were transferred to the
 “small-pox carriages and the cottage closed. By vaccinating
 “the contacts, and thoroughly disinfecting the cottage and
 “clothing, bedding, &c., we were enabled at once to check
 “the disease.”

THRAPSTON RURAL.—“On January 14th of last year I
 “received a telegram from Dr. Buckley, Medical Officer to
 “the Workhouse, stating that a tramp, staying on his way
 “from Leicester, had developed the disease in the Workhouse.
 “It is to be noted as one of those numerous cases in which
 “tramps convey small-pox about the country. The case
 “proved to be mild, and every possible precaution was taken
 “by the Workhouse Authorities to prevent a spread of the
 “disease. By my advice the inmates of the Workhouse were
 “prevented from going beyond the gates. By your request I
 “consulted with Mr. Paget, County Medical Officer of Health,
 “and Dr. Buckley as to what course should be taken if any
 “further cases occurred. It was ultimately decided that a
 “field on the Huntingdon Road, known as Weston’s Pastures,
 “previously reported on, be kept on for another year as a site
 “for a temporary hospital. Happily it has not been required.
 “On April 21st, I received a report from the Sanitary In-
 “specter stating that a man, who died at Raunds on that day
 “from Small-pox, had slept at an Inn at Ringstead on the
 “night of the 17th. I at once visited the house, and directed
 “that the bedding used by the man be burnt and the house
 “be thoroughly disinfected.”

TOWCESTER RURAL.—“I am very pleased to report an
 “immunity from Small Pox. Its proximity was a source of
 “anxiety in the early part of the year. One case discovered
 “at Northampton had been for some time previously working

“in our neighbourhood. Another at Daventry had stayed “three days before over-night at a lodging-house in Towces-
 “ter—in this case the bedding he had used was destroyed and
 “the premises disinfected.”

Scarlet Fever.-- There was a satisfactory falling off in the number of scarlet-fever cases notified during 1903, as compared with previous years. During 1903, there were 203 cases in the combined Urban Districts and 292 in the combined Rural Districts, making a total of 495 cases in the Administrative County as against 602 in 1902, 570 in 1901, and 816 in 1900. The total scarlet-fever prevalence was equal to a sickness-rate of 0·23 per cent. of the total estimated population of the county ; in the combined Urban Districts the rate was 0·21 per cent., and in the combined Rural Districts it was over 0·25 per cent. of the population. The total number of deaths from the disease in the County was 15 or 3·03 per cent. of the total cases, as against 1·82 per cent. in the year 1902, 1·57 per cent. in 1901, and 1·96 per cent. in 1900. It is noticeable that the disease was not entirely absent during the year in any one of the Urban Districts, though it only prevailed extensively in the Kettering District and moderately in the Desborough, Oundle, Rothwell, Rushden, and Wellingborough Districts, while the Easton-on-the-Hill and Gretton Rural Districts alone escaped the disease. Though the amount of the disease in the County during 1903 was, therefore, considerably less than in previous years, its distribution was very general.

The following remarks on the subject are to be found in the Reports of the District Medical Officers of Health :—

DAVENTRY BOROUGH.—“ Four cases occurred in August
 “and one in September. All recovered. The disease was
 “clearly traceable to an outside source.”

HIGHAM FERRERS BOROUGH.—“The two cases of scarlet-fever occurred in different parts of the town and from distinct sources of infection, so that it was fortunate, in the circumstances, that there was no spreading of the disease ; but doubtless this was due to prolonged isolation of the cases, and the careful manner in which the subsequent disinfection was carried out by your Sanitary Officer. It is, however, much to be regretted that we possess no proper means of dealing with infected clothing, through the agency of which this extremely infectious disease is most frequently spread. By the combination of two Urban Districts a proper disinfecting apparatus, quite sufficient for both, might be provided at small cost to each.”

DESBOROUGH URBAN.—“During the year there were notified 13 cases of scarlet-fever—one in April and the remainder during the months of November and December. Fortunately there is no death to record as due to this disease. With two exceptions the cases were of an unusually mild character. Although close inquiries were made no common source of infection could be discovered. In a few cases the drainage arrangements were at fault, and were soon remedied at the instance of your Inspector. It is worthy of note that those in charge of the sick appeared to fully appreciate the dangers likely to result from this treacherous disease, and were most loyal in carrying out the directions in the printed-instructions issued by me to them for their guidance as regards disinfection, isolation, and prevention.”

FINEDON URBAN.—“Only one case of Infectious Disease was reported during the year, viz., a case of Scarlet-fever at Finedon Hill Farm, the patient being a visitor there.”

IRTHLINGBOROUGH URBAN.—“The cases of scarlet-fever occurred in different parts of the town ; and although 3 of them happened at the same time no connection could be

“found to exist between them and no traceable cause could
 “be assigned for either. Strict measures were taken to pre-
 “vent the spread of the disease, and no extension took place.
 “One child, whilst in an infectious state, was allowed to go
 “outside and even to enter a neighbour’s house. Needless to
 “say this was contrary to the orders of the medical attendant.
 “The case was reported to the Council by the Sanitary In-
 “specter; the parents were ordered to appear before the
 “Council, and were there severely reprimanded and cautioned.”

KETTERING URBAN.—It is reported that cases of scarlet-fever were notified in every month of the year, except December, and were 109 in number: “of these cases 106
 “recovered and 3 died; 84 of the cases were removed to the
 “Hospital.”

OUNDLIE URBAN.—“On April 6th a sporadic case of the
 “disease occurred at the Workhouse, in a child attending the
 “National School. On May 11th another case occurred in a
 “child at the same school, followed at short intervals by 9
 “other cases, one of which was a scholar at the British School.
 “The disease died out in August, but a fresh, and in my
 “opinion, sporadic case occurred in November, the boy being a
 “scholar at the British School. The children were all isolated
 “at considerable inconvenience to the fathers, who took lodgings
 “in the town, and no untoward event occurred.”

RAUNDS URBAN.—“The Scarlatina case was no doubt
 “imported, and with almost perfect isolation for over six
 “weeks no other case occurred.”

ROTHWELL URBAN.—“During the year there were seven-
 “teen cases of Scarlatina reported, but at no time did it
 “spread very fast, as every precaution was taken to isolate, as
 “much as possible, individual cases of infection, giving our
 “attention to their Sanitary surroundings. It was of a dis-
 “tinctly mild type, and we had no deaths from that cause.”

WELLINGBOROUGH URBAN.—“ Of the scarlet-fever cases “ (17) 3 were imported, 3 arose from direct infection, 4 were “ apparently due to imperfect drainage, and of the remaining “ 7 the origin could not be traced. In each of the 4 cases the “ imperfections of drainage were at once remedied.”

BRACKLEY RURAL.—Thirty-six cases of scarlet-fever were notified, and it is reported that they “ were very mild, “ and probably many escaped notice.”

BRIXWORTH RURAL.—There were “ 78 cases notified : “ of this large number, Spratton accounts for 31 cases, Moul- “ ton 15, Boughton 9, Brixworth 9 ; the four villages giving “ 64 out of the 78 cases. Boughton cases were the tail end of “ the epidemic recorded in the last Annual Report. Moulton “ was infected from Northampton and Boughton. Most of “ the children in one row became infected about the same “ time. The schools were closed for six weeks and fresh cases “ sent to the Isolation Hospital, which gradually stopped “ further spread of the disease. Brixworth cases were due to “ the fact that when the first case occurred it could not be “ sent to the Isolation Hospital on account of the prevalence “ of Small Pox. Although the Schools were closed and isola- “ tion was carried out with the greatest care under the “ circumstances, yet the disease spread. As soon as the Isola- “ tion Hospital was opened, the remaining cases were at once “ sent, and it is to this action in isolating the cases that I “ attribute the end of what might easily have been a very “ serious epidemic, as severe as that of Spratton. Spratton.— “ Many children became infected in this village from the first “ case, which was allowed to go out in the peeling condition, “ contrary to orders from the Medical Man in charge. The “ disease quickly spread over the whole village ; children “ were frequently allowed out in the streets, in the peeling “ stage, as parents seemed unable or unwilling to keep them

“in their small rooms for the necessary month or six weeks.
 “Sending cases out of a large family to the Isolation Hospital
 “was at first tried, but this did not make the rest of the family
 “more careful, and others became infected, so that lately no
 “further cases have been sent. The disease has been allowed
 “to burn itself out. One adult was prosecuted for exposing
 “himself to the danger of the public whilst suffering from
 “Scarlatina, and was fined. ‘Of the remaining fourteen cases
 “—two occurred in Teeton, and were contracted at Spratton.
 “Five occurred at Harleston, where dirty pigsties were found
 “close to the house ; these have been condemned, and will
 “be moved away from the house. One occurred at Scaldwell
 “in a very dirty house, was at once isolated and the house
 “white-washed. One at Holcot was removed to the Isolation
 “Hospital ; it was probably contracted in Northampton. Four
 “occurred at Overstone, in isolated cottages, where there was
 “no further spread ; they were contracted at Moulton. One
 “at Lamport, which was imported.”

CRICK RURAL.—“Of the 7 cases of Scarlet-fever, 2
 “occurred in two separate households in Barby, but owing to
 “the precautions taken, no other cases cropped up in the
 “village. The other five cases occurred in two houses in
 “Kilsby, and here also the disease was prevented from
 “spreading.”

DAVENTRY RURAL.—“Scarlet-fever occurred in 9
 “Parishes, 4 cases in West Haddon, 3 cases in Woodford-
 “cum-Membris, 2 cases in Everdon, and single cases in
 “Badby, Braunston, Long Buckby, Dodford, Newnham, and
 “Whilton ; one of the cases at Everdon proved fatal.”

HARDINGSTONE RURAL.—Of the two scarlet-fever cases
 one was at Brafield, and the other contracted the disease
 whilst at school in Northampton.

KETTERING RURAL.—“Scarlet-fever was present at
 “Pytchley, 1 case ; Broughton, 15 ; Little Oakley, 1 ; Rushton,
 “2 ; Glendon, 1 ; Middleton, 2 ; Cottingham, 1 ; Thorpe, 1 ;
 “Little Cransley, 1 ; total 25. Eleven of these cases were
 “removed to the Hospital, and every case recovered.”

MIDDLETON CHENEY RURAL.—Of the cases of scarlet-fever, it appears that there was a case at Middleton Cheney in January and another in August, and three at Chipping Warden in April.

NORTHAMPTON RURAL.—“Two of these cases were in
 “convalescents at the Weston Favell home, who had just
 “been admitted from Kettering, and; unfortunately one of
 “them was fatal, but as it occurred in a non-resident, it is not
 “shown amongst the deaths in this district. One other case
 “at Lower Heyford occurred in a young man also resident at
 “Kettering, who came home unwell, and fell ill with Scarlet-
 “fever. One case at Billing Lings, happened in a family
 “who had taken the house for the summer months, and were
 “backwards and forwards, mostly being in the town during
 “the day time. The two cases at Berry Wood Asylum,
 “were not contracted, in this District ; the first child went
 “to spend the week-end with friends at Berry Wood, and on
 “the Sunday was found to be suffering from Scarlet-fever ;
 “and the second child contracted the disease from this one.
 “Thus, if we deduct these 6 cases from the 11 cases of Scarlet-
 “fever notified, we find that only 5 of them really occurred
 “amongst residents of the district. . . The few isolated
 “cases were difficult to trace, but all seemed to have had
 “more or less intercourse with the town of Northampton,
 “where the disease has been very prevalent during the year.
 “I am only surprised that when we consider how small the
 “distance is between the town and many of our villages, we
 “do not suffer much more, and that the cases show so little
 “disposition to spread.”

OUNDLE RURAL.—“Scarlatina still hangs about Nassing-ton and is never entirely absent for any length of time. I think more trouble might be taken about the Sanitary condition of the school. Last year, I advised the adoption of the dry earth system for the closets, but I do not think it has been adopted. I also hope the new school managers will also give directions that the place be washed oftener than twice a year, which seems to have been the custom.”

POTTERSPURY RURAL.—“Seven cases of Scarlet-fever were notified—all apparently of the usual mild type, unattended by mortality, and generally spread by unrecognised cases imported into the district. They do not call for any special comment.”

THRAPSTON RURAL.—At Thrapston, “a few mild cases of Scarlatina were seen, prompt measures were taken for Isolation, and the disease did not spread to any extent.” There were also a few mild cases of Scarlatina at Woodford.

TOWCESTER RURAL.—“The distribution of Scarlet-fever was as follows : viz., in the Towcester Sub-district isolated cases at Blisworth, Cold Higham, Easton Neston, Green’s Norton, and Shutlanger, whilst 4 cases occurred in Towcester. In the Abthorpe Sub-district there was 1 case in Abthorpe Parish, 18 at Weston by Weedon and Lois Weedon, and 17 at Whittlebury. Owing to the continuance of the disease from 1902 at Weston by Weedon and Lois Weedon, a Local Government Board Enquiry was instituted and a Medical Officer visited the district towards the end of March. His suggestions were brought to the notice of the Council and, early in May, a cottage was acquired at Lois Weedon for use as an Isolation Hospital. There was an immediate improvement in the state of affairs, for whereas in May there were 6 cases notified, there were but 3 in the three succeeding months, and the ‘Hospital’ was closed at the

“end of September. In the middle of September there was
 “a serious outbreak at Whittlebury, 11 cases being reported
 “in as many days, and throughout the remaining months of
 “the year, with the exception of October, the disease appeared
 “at intervals. The death of a child aged 6 years at Weston
 “by Weedon was certified as being due to ‘Suppressed Scarlet-
 “fever,’ but with this exception the epidemic throughout the
 “combined district was of a mild character, and this mildness
 “was undoubtedly a reason of its continuance, and its spread
 “was largely contributed to by the failure of parents to under-
 “stand its high infectivity and the fact that contagion may be
 “carried by persons who do not take, or have had the disease
 “themselves.”

WELLINGBOROUGH RURAL.—“Thirty-two cases of Scar-
 “let-fever have been reported—15 in the Earls Barton district,
 “one in the Finedon district, and 16 in the Higham Ferrers
 “district, with one death between the age of 5 and 15 years.”

Diphtheria and Membranous Croup.—It is very satisfactory to be able to record the smallest number of cases of diphtheria and membranous croup that have occurred in the county during a period of eight years, the total numbers for the year 1903 being 85 cases with 17 deaths, as against 105 cases and 20 deaths in 1902, 122 cases and 39 deaths in 1901, 172 cases and 38 deaths in 1900, 119 cases and 28 deaths in 1899, 125 cases and 39 deaths in 1898, 99 cases and 27 deaths in 1897, and 101 cases and 21 deaths in 1896. In only one district,—Brixworth Rural—was there anything like an epidemic of the disease, but the one which occurred in the village of Spratton was of a serious character. In the combined Urban Districts during 1903, there were 29 cases with 5 deaths, while in the combined Rural Districts there were 56 cases with 12 deaths. These mortalities give a death-rate of 17·24 per cent. of the cases in the Urban Districts, of 21·42 per cent. in the Rural Districts, and of 20·0 per cent. in the Administrative County.

I cannot but call attention to the continued disparity of the distribution of this disease among the urban and rural districts. In proportion to the population this disease is more prevalent among the rural than the urban classes, and it is evident to my mind that greater efforts are in some places required for the removal of conditions inimical to health. In most of the Urban Districts these are being more actively and completely dealt with than in more sparsely populated areas, but they call for removal in the latter no less than in the former. Inefficient drainage, damp foundations, confined and ill-ventilated dwellings, are matters which require constant watchfulness and attention to prevent their having ill-effects, almost as much as isolation of the sick and wholesome food and water. The incidence of this disease on the urban population was at the rate of 0·30 per 1,000 persons living, while on the rural population it was 0·48 per 1,000, or 62 per cent. greater among the rural population than the urban.

The following are the principal references in the Annual Reports of the District Medical Officers of Health in regard to this disease prevalence :—

DESBOROUGH URBAN.—“ Under the heading of Diphtheria and Membranous Croup there were four cases notified, one of these, unhappily, proving fatal. Special inspections where these cases occurred were made by your officers. In connection with one case the W.C. drain was found to be blocked ; and associated with another was the absence of all ventilation for the house drain.”

KETTERING URBAN.—“ Only 10 cases of Diphtheria have occurred, one of which proved fatal. It was impossible to discover any common cause for these cases.”

OUNDLIE URBAN.—“ In October a mild case of this disease occurred in the Stoke Road, no cause for it being found.

“On December 30th a fatal case occurred in Havelock Cottages, the origin of this case also not being discovered, but the drains in this block of cottages are rendered offensive by the occupants throwing vegetable and other decomposing matter into them and blocking them ; this fact may have helped to cause this attack.”

WELLINGBOROUGH URBAN.—“Of the 8 cases of Diphtheria, 2 were imported, no sufficient cause could be found to account for the other 6. They did not all occur at the same time, but were dispersed throughout the year and in different localities.”

BRACKLEY RURAL.—Of the 3 cases of diphtheria recorded, one “was imported and the others were mild or doubtful.”

BRIXWORTH RURAL.—There were 34 cases notified, of which 15 were isolated. Three occurred at Holdenby, where nuisances were discovered, and sewer ventilating shafts found to be too low ; two at Teeton, one infected at Spratton, the other at Ravensthorpe where four cases occurred in one house, the yard of which had many defects ; and one each at Merry Tom Farm, and Hanging Houghton due to insanitary conditions since remedied. “Walgrave was responsible for four cases at the same time, probably due to infection from outside the district ; they were carefully isolated and anti-toxin used as a preventative measure, with success. The rest of the cases occurred in epidemic form in Spratton and East Haddon. The cases in Spratton were twelve, and were in continuation of the epidemic which was reported in my last annual report. In spite of having the Schools closed for long periods, having the children sent away to the Isolation Hospital, and others injected, the disease continued to break out first in one house and then in another. All the wells in the village were analysed, Schools were inspected and disinfected again and again, but it was not

“until I had a series of cases along one sewer, extending
 “from half-way up the village to the top of the hill that I
 “found out what I consider was the real cause of the epidemic.
 “This was improper and insufficient ventilation of the sewers.
 “On my recommendation, the erection of four-inch ventila-
 “tion shafts at the end of all the sewers was carried out, after
 “some time, and your Committee had inspected ; from that
 “time there has been no further outbreak. East Haddon was
 “responsible for five notified cases. The School was over-
 “crowded, and sore throats had been about the village some
 “time. The School was at once closed until it was enlarged
 “and properly ventilated. Antitoxin was injected in all
 “children and parents in attendance ; isolation was carefully
 “attended to. There was no further spread. The Schools
 “have been enlarged, ventilated, and a proper system of
 “water closets, with sound drainage, put down. In only
 “one house during the year where antitoxin was injected
 “all round did a second case break out.”

CRICK RURAL.—“Both the cases of diphtheria, one of
 “which, as already stated, proved fatal, occurred in Clay
 “Coton, the precise cause being doubtful, but there was no
 “further spread in either instance.”

DAVENTRY RURAL.—“The single case of diphtheria
 “was reported from Badby, and recovered.”

HARDINGSTONE RURAL.—“The two cases of diphtheria
 “at Horton occurred in the same family, and, though two
 “microscopic examinations were made in London, no bacilli
 “were found on either occasion, so that they must be regarded
 “at least as very doubtful cases ; there were no other cases in
 “the district and the disease did not spread.” There was
 also a mild case of membranous croup at Horton.

NORTHAMPTON RURAL.—“Two cases of diphtheria were
 “notified at Kislingbury. The first occurred in the same

“yard as the case of Enteric-fever, and about the same time, “and was probably due to the state of the drains and ashpits. “The second, which was unfortunately fatal, was a very “strange one. A child in the village suffered from diphtheria “over a year ago, its clothes were put away, and after some “time worn by another child, who also contracted diphtheria. “During this summer these clothes were again brought out “and given to the present child, who contracted the disease “and died. No other cause could be assigned, and, of course, “the clothes have now been destroyed. One slight case of “Membranous Croup was reported at Duston.”

POTTERS PURY RURAL.—“Two cases were notified ; both “at Ashton. . . Careful enquiries failed to detect the “cause.”

TOWCESTER RURAL.—“Of the four cases of diphtheria, “Whittlebury had 2, Towcester and Gayton 1 each. Of those “at Whittlebury (both in the same house) one was rapidly “fatal—the other was removed to Northampton. In none of “the cases was any source of infection discoverable.”

Enteric Fever. – It is also very gratifying to be able to record a lower rate of enteric-fever sickness in the county during the year 1903 than for any one of the preceding seven years. Except for epidemics of limited extent in the Desborough and Kettering Urban Districts and some unexplained prevalence of the disease in the Earls Barton division of the Wellingborough Rural District, the incidence of the disease has been small throughout the county. In the year 1903, the number of cases of Enteric Fever notified in the Administrative County was 102, as against 121 cases in the year 1902, 276 cases in 1901, 144 cases in 1900, 287 cases in 1899, 226 cases in 1898, 143 cases in 1897, and 303 cases in 1896. The cases during 1903 numbered 63 in the combined Urban Districts, and 39 in the combined Rural Districts. The total number of deaths from the disease was 15, giving a death-rate of 14·7 per cent. of the

total cases. The number of deaths in the combined Urban Districts was 7, or 11·11 per cent. of the total Urban cases, and in the combined Rural Districts there were 8 deaths, or 20·51 per cent. of the total Rural cases.

The following extracts from the Annual Reports of the District Medical Officers of Health will be found of interest, particularly in regard to the Desborough and Kettering outbreaks of this disease :—

HIGHAM FERRERS BOROUGH.—“The case of Enteric-fever, which was a mild one, occurred in Corporation Terrace, but no sanitary defect could be found to account for it. The only possible cause that suggested itself to my mind was the extensive turning up of the earth at the back of the houses, that had previously taken place, necessary to the laying of the pipes for the water supply. I may mention here that although the house drains in this locality are in good condition the drainage, as a whole, is rendered unsatisfactory by the old drain that runs from the bottom of the Terrace to the sewer in Wharf Lane, which is very defective, and badly laid. This ought to be replaced by properly-laid socket pipes.”

DESBOROUGH URBAN.—“The recurrence of enteric-fever in the district necessitated my presenting a special report regarding it to the Council in June. The first case notified was on May 3rd, and thereafter at varying intervals cases continued to crop up until the middle of September. The total number was 37—16 males and 21 females—with 4 deaths, giving a case-rate of 9·86 per 1,000, and a case-rate of mortality of 10·8 per cent. It was at first difficult to determine the causes of the outbreak, the attendant circumstances having been, in the great majority of the cases, somewhat different from those met with in previous outbreaks. The whole of the affected houses, with one exception

“ where the drinking water was obtained from a shallow well
 “ liable to pollution, were supplied with town water, samples
 “ of which were analysed and found satisfactory. In two
 “ cases the W.C. drains were found to be blocked. Four cases
 “ which occurred in Paddock lane had been drinking water
 “ from a sewage polluted brook, and most probably thus con-
 “ tracted the disease. From a careful consideration of all the
 “ facts which came under observation, I am of opinion that
 “ the absence of proper ventilation of the sewers, and more
 “ particularly of the house-drains, by permitting gaseous
 “ emanations from these sources to gain access to the dwellings
 “ was responsible for the occurrence of a large number of the
 “ cases. On my recommendation Ventilating Shafts to the
 “ number of 14 for the Street Sewer were erected in various
 “ parts of the town. Steps were taken for the abatement of
 “ the nuisances connected with the defective ventilated house-
 “ drains herein referred to with the result that 15 drains have
 “ been attended to and only two remain which are without
 “ any ventilation whatever. As regards the latter, the owners
 “ have not as yet complied with the requirements of your
 “ Inspector.”

IRTHLINGBOROUGH URBAN.—“ Of the three cases, one
 “ was a girl attending school and living with her parents in
 “ Park View. The child had not been away from home ; no
 “ stranger had visited the house ; the water supply was found
 “ to be good ; the drainage faultless ; no other case occurred
 “ in the same house or neighbourhood ; thus the cause of the
 “ disease remains a mystery. Another case was that of a
 “ foreman finisher who undoubtedly worked for at least a
 “ fortnight whilst suffering from the disease. The drainage
 “ of the house in which he lived was found to be in a very
 “ bad and most insanitary condition. The family had com-
 “ plained of foul smells in the kitchen, and no wonder, as the
 “ pipe from the sink opened direct into a drain, which con-
 “ veyed the sewage from a butchers’ shop and slaughterhouse

“on the same property, as well as that from an adjoining
 “public-house. Further investigations proved that a child,
 “while on a visit to a former tenant, fell ill, and when taken
 “home was found to be suffering from Typhoid Fever. The
 “marvel is that the outbreak was confined to this one patient.
 “The third case, that of the manager of the Wellingborough
 “Sewage Farm, unfortunately proved fatal. As several cases
 “had occurred during the last few years at the farm, I
 “requested Mr. Paget to join me in making a thorough ex-
 “amination of the premises and surroundings.” The result
 of the investigation was negative. There were certain drain-
 age defects outside the manager’s house, but no evidence of the
 entry of sewer air into it, and no other case occurred. The
 general health of the patient appeared to have been poor for
 some time previously. I recommended that certain outside
 hand-flushed closets should have proper flushing cisterns sup-
 plied to them, and called attention to the too close proximity
 of the pigstyes to the manager’s house, and to the unnecessary
 amount of farm-yard manure allowed to accumulate in the
 yards.

KETTERING URBAN.—“Kettering was entirely free from
 “Typhoid-fever during the year until August 29th. On this
 “date a young man came home ill to Connaught Street, who
 “had been employed at St. Pancras Hotel. On August 31st a
 “doctor was called in, who notified the case on September
 “4th as one of Typhoid-fever. The patient was removed to
 “Hospital on September 5th. The events which followed
 “were to those interested in sanitation most interesting and
 “instructive, and went far towards proving that Typhoid-
 “fever may be conveyed by vapour. The patient after re-
 “moval to Hospital, made a good and rather rapid recovery.
 “On September 21st, a young girl was found to be suffering
 “from Typhoid-fever, who, on being questioned, stated that
 “on passing over the sewer in the neighbourhood of Con-
 “naught Street, which she passed twice every day, she had

“noticed a very bad and sickening smell. No other cause
 “could be discovered for her illness, although every search
 “and enquiry was made. She was also removed to Hospital;
 “her case was a very severe and prolonged one, but she
 “eventually recovered. Then followed in quick succession a
 “series of cases, all of them young women, and all working
 “at the same Corset Factory, which factory was situated
 “opposite the bottom end of Connaught Street. Between
 “September 25th and October 9th nine cases, residing in all
 “parts of the town, were notified, most of them very severe.
 “They were all removed to Hospital, and with one fatal
 “exception recovered. Meanwhile every effort was made,
 “and every known method employed, to discover the cause
 “of this outbreak, and for some little time without success.
 “Examinations of the water used at the factory, both chemical
 “and bacteriological, were made without any fresh light
 “being thrown on the subject; a thorough examination of
 “the sanitary arrangements was also made. At length the
 “cause was found in a faulty syphon which was completely
 “blocked, and which allowed the vapour from the Connaught
 “Street sewer to find its way to a covered gateway, through
 “which the employees passed on their way to and from the
 “factory, and to direct communication with the drainage
 “system of the factory. This was, of course, at once put
 “right, and no other case has occurred in the town up to the
 “present time.”

WELLINGBOROUGH URBAN.—“Four of the cases of
 “typhoid seem to have arisen from insanitary conditions in
 “the houses, and drinking of impure water, the cause of the
 “5th could not be traced.”

BRACKLEY RURAL.—“The infection in the case of
 “Typhoid was unconnected with the district.”

BRIXWORTH RURAL.—“Two cases, both at Pitsford.
 “One occurred in July and the other in September. No

“cause could be found for the July case. That of September
 “was suspected to have been caused by bad drains. These
 “are at present in the hands of the sanitary experts, and will
 “be put in perfect order.”

DAVENTRY RURAL.—“Only one case of Enteric Fever
 “was notified in Long Buckby, and this case recovered.”

NORTHAMPTON RURAL.—“Two cases of Enteric Fever
 “were notified, the first occurred in a yard at Kislingbury,
 “where the drains were out of order, and the ashpits were in
 “a very dirty state ; these were ordered to be cleaned out, and
 “the disease did not spread. The second case was the school-
 “master at Duston, no cause could be found for it, there were
 “no sewer gratings near his house, and there were no other
 “cases in the village ; as he was very often away from home,
 “I think he must have been drinking contaminated water or
 “milk elsewhere.”

OUNCLE RURAL.—“A case of Enteric-fever was im-
 “ported into Benefield in October from the Thrapston District,
 “but did not spread. . . . In July, a case of enteric-fever
 “was imported into Warmington from Nottinghamshire, and
 “a second case was seen in September, also, I thought, con-
 “tracted outside the district ; there did not seem to be any
 “connection between the two.”

POTTERSPURY RURAL.—“Two cases were notified dur-
 “ing the year, one at Paulerspury in September, and one at
 “Potterspury in December. The former was imported from
 “London, but the means promptly adopted to prevent the
 “spread of the disease at Paulerspury were successful. The
 “case at *Potterspury* must be regarded with anxiety, as the
 “village was visited by an extensive outbreak in 1895-6. No
 “fewer than 113 cases were then notified. The subject was
 “specially investigated by Dr. Bulstrode, of the Local Govern-
 “ment Board, who reported in November, 1895, condemning,

“ amongst other matters, the water supply of the village. No
 “ steps have since been taken to provide a proper supply, and
 “ a sample sent up the other day to the County Analyst, from
 “ the local well implicated in the recent outbreak, is reported
 “ as ‘ highly polluted and quite unfit for use.’ Up to the
 “ present date* three cases have occurred, viz., two at Potters-
 “ pury and one which developed in London.”

THRAPSTON RURAL.—“ In the early part of May, a boy
 “ named Swan, aged 11, residing at the factory end of Brig-
 “ stock was taken ill with Enteric-fever. It is not very clear
 “ how this first case arose. The premises are in good condition
 “ and the water was got from a well in a yard opposite, known
 “ as Jetty Yard. The water from this well was considered good,
 “ and, as a matter of fact, was one of the few wells which
 “ gave a good result from the analysis of a number of specimens
 “ of Brigstock water three years ago. The well is at the
 “ bottom of a grassy slope, and at the top of the slope there is
 “ an ashpit which is to all intents a cesspit, as the inhabitants
 “ were in the habit of emptying the contents of the pails from
 “ their closets into it. During the wet weather which pre-
 “ vailed during the summer, water constantly trickled from
 “ this cesspit on to the grassy slope, and in my opinion
 “ poisoned the well. Three other cases of enteric-fever occur-
 “ red in September among children using this water, and I
 “ believe that two other cases, one notified from Woodford
 “ and the other from Benefield in the Oundle District, can be
 “ traced to the same cause. A specimen of the water was sent
 “ to the Public Analyst, who pronounced it to be highly pol-
 “ luted with sewage and quite unfit for drinking purposes.
 “ By my advice the well was closed. No further cases were
 “ seen from that time.”

WELLINGBOROUGH RURAL.—“ Twenty cases have been
 “ reported—17 in Earls Barton district, one in the Finedon,

* Apparently 28th January, 1904.

“and two in the Higham Ferrers districts, with six deaths—
 “four in the Earls Barton district, one in the Finedon, and
 “one in the Higham Ferrers districts.” “In May I received
 “notice that three army blankets from South Africa had been
 “sent to Ecton. I immediately went with your Inspector and
 “examined them, found they were badly soiled, and had
 “them destroyed at once.”

Puerperal Fever.—There were seven cases of this disease in the Administrative County during the year 1903, with 3 deaths, as against 8 cases and 3 deaths in 1902, 4 cases and no deaths in 1901, and 13 cases and 7 deaths in 1900. The distribution of the cases and mortality was as follows:—Desborough Urban District 1 case but no death, Kettering Urban District 1 case but no death, Rothwell Urban District with one fatal case, Brixworth Rural District 2 cases with one death, Oundle Rural District 1 case but no death, Wellingborough Rural District with one fatal case.

In the future I shall be able to distinguish between cases of this disease occurring in the practice of midwives or medical men, and speak more explicitly as to the precautions taken to prevent this serious risk to women in childbirth. Happily, the record for this County is not at present a heavy one.

Erysipelas.—The increase in the number of cases of Erysipelas is noticeable, though I am not at present able to do more than hazard the suggestion that it may have been associated with the extremely unfavourable climatic conditions of the year. There were in all 209 cases notified in the Administrative County during the year 1903 with four deaths, as against 187 cases and 6 deaths in 1902, 146 cases and 5 deaths in 1901, and 165 cases and 4 deaths in the year 1900. The distribution of the cases and deaths was as follows:—in the combined Urban Districts there were 90 cases but no

deaths, and in the combined Rural Districts 119 cases and 4 deaths. The incidence of this malady was, therefore, about the same in the Urban and Rural Districts as based upon population. The percentage case-mortality for the combined Urban Districts was 0·0, as against 3·19 in 1902, 7·57 in 1901, and 5·79 in 1900, while in the combined Rural Districts it was 3·36, as against 3·22 in 1902, and 0·0 in 1901 and 1900. For the whole Administrative County the mortality was 1·91 per cent. of the cases for the year 1903, as against 3·2 in 1902.

Measles.—There were several epidemics of this non-notifiable disease during the year 1903, producing a total mortality of 25 among the Urban Districts of Kettering, Raunds, Rothwell, Rushden and Wellingborough, and of 5 in the Rural Districts of Brixworth, Kettering and Wellingborough. There were, therefore, 30 deaths in eight districts, as against 19 in as many districts in 1902, and 32 deaths in sixteen districts in the year 1901. With the exception of 1 in the Urban Districts, all the deaths from measles occurred in children under 5 years of age, and I cannot but think that much of this mortality might have been saved by greater care, on the part of those responsible for these young children, in protecting them from exposure to cold, which is the most potent cause of those complications to which sufferers from measles are liable.

The following references to the prevalence of this disease are to be found in the Annual Reports of the District Medical Officers of Health :—

IRTHLINGBOROUGH URBAN.—“ A few cases occurred in
 “ the beginning of February, but by the end of the month
 “ and throughout March the disease was epidemic. During
 “ the latter half of February the disease spread so rapidly
 “ amongst the children attending the infant department of
 “ the Board Schools that I felt justified in ordering the closure

“ of that school from March 2nd for three weeks, but as the
 “ children attending the National School soon became affected
 “ in large numbers, I ordered that school to be closed as well
 “ from the 16th of March for two weeks. By the end of the
 “ month the disease was completely stamped out.”

KETTERING URBAN.—“ Measles have been prevalent
 “ occasionally, and 12 deaths have been certified as caused by
 “ this disease. Although many people look upon Measles as
 “ a very trivial illness, as will be seen by reference to the
 “ ‘Causes of Death,’ it is more fatal than any other zymotic
 “ disease, probably in many instances from complications
 “ caused by insufficient care being taken of those who suffer
 “ from it. It was thought advisable to close the Schools on
 “ the Market Hill during part of February on account of the
 “ prevalence of Measles amongst the children attending that
 “ School.”

DAVENTRY RURAL.—“ An outbreak of Measles occurred
 “ during September in Ashby St. Ledgers but no case proved
 “ fatal.”

KETTERING RURAL.—“ Measles were prevalent in most
 “ parts of the District, and three deaths were caused by this
 “ disease and its complications. The schools at Gedddington,
 “ Little Oakley, Broughton and Cransley, were closed in
 “ January owing to the large number of cases of this illness,
 “ and the schools at Loddington were closed in February for
 “ the same reason. In March the schools at Weekley and
 “ Warkton were closed also.”

MIDDLETON CHENEY RURAL.—“ There was an outbreak
 “ of Measles at Chalcombe in April, when it was found neces-
 “ sary to close the school for three weeks.”

NORTHAMPTON RURAL.—“ The schools at Lower Hey-
 “ ford were closed for three weeks because of an epidemic of
 “ Measles.”

POTTERSPURY RURAL.—There was some prevalence of the disease in December at Paulerspury.

TOWCESTER RURAL.—“The Schools at Towcester were “closed from October 19th till November 30th owing to the “prevalence of Measles.”

WELLINGBOROUGH RURAL.—“One death has occurred “in the Finedon district. . . During the months of May “and June an epidemic of measles occurred at Earls Barton “and Great Doddington, which necessitated the schools being “closed for three weeks.”

Whooping Cough.—The number of deaths from this disease in the whole Administrative County during the year 1903 amounted to 40, as against 64 in the year 1902, 29 in 1901, and 46 in 1900. It was much more prevalent in the Rural than in the Urban districts, as judged by the number of deaths and the districts showing mortality. Deaths occurred from whooping-cough in the Finedon, Kettering, Rushden and Wellingborough Urban Districts, while the only Rural Districts to escape mortality from it were Crick, Easton-on-the-Hill, Oundle and Oxendon. There were 17 deaths in the combined Urban Districts, and 23 in the combined Rural Districts. All the deaths were of children under five years of age, with the exception of one in the Urban Districts and two in the Rural Districts.

The following particulars as to the prevalence of this disease are taken from the Annual Reports of the District Medical Officers of Health :—

IRTHLINGBOROUGH URBAN.—It appears to have been prevalent to a slight extent in the beginning of the year, but no deaths occurred.

BRACKLEY RURAL.—“The only infectious disease res- “ponsible for death was whooping-cough, which caused 1.”

BRIXWORTH RURAL.—“Whooping-cough was very prevalent during the early part of the year over East Brixworth, and often of a very severe type. The Schools of Maidwell, Hanging Houghton, and Wold were closed for varying periods.”

DAVENTRY RURAL.—“Outbreaks of whooping-cough occurred during January in the Parishes of Dodford and Whilton; during June in the Parish of Everdon; and during August in the Parish of Woodford-cum-Membris; two cases proved fatal, one in Dodford, and one in Woodford-cum-Membris.”

GRETTON RURAL.—“The only zymotic death was from Whooping-cough in the village of Gretton.”

HARDINGSTONE RURAL.—“The only fatal cases from infectious disease were two children at Brafield who died from whooping-cough.” The schools were closed in January on account of this disease.

KETTERING RURAL.—“Four deaths occurred from whooping-cough : at Warkton 1 ; Broughton 2 ; Geddington 1.”

NORTHAMPTON RURAL.—“There were two deaths from whooping-cough in the Kislingbury district.”

OUNCLE RURAL.—“Six deaths from Infectious Disease were reported—all from whooping-cough.”

POTTERSPURY RURAL.—There was some prevalence of the disease in December at Paulerspury.

THRAPSTON RURAL.—The schools at Sudborough had to be closed in July, and at Clapton in December, owing to outbreaks of whooping-cough.

TOWCESTER RURAL.—The School at Whittlebury was closed “for whooping-cough from December 8th for the rest “of the year.” One death of a child aged 5 years from this disease occurred at Whittlebury.

WELLINGBOROUGH RURAL.—“Whooping-cough has “caused four deaths—three under one year and one under “five years, in the Earls Barton district.”

Chicken Pox.—Although no death occurred as due to this disease, it appears from the following statements to have been prevalent to some extent in the County during the year :—

DAVENTRY BOROUGH.—“In February several cases occurred at the Workhouse, and in May a few cases were met “with in the Town. In June the disease became very prevalent, but did not occasion anything further than temporary “inconvenience.”

FINEDON URBAN.—“A few cases of Chicken-pox of a “very mild kind occurred during the year.”

HARDINGSTONE RURAL.—“The Wootton schools were “partially closed on account of an outbreak of chicken-pox “in that village.”

TOWCESTER RURAL.—“Chicken-pox was the cause of a “closure of Blakesley School from March 2nd to 23rd.”

Diarrhœa.—There were 28 deaths from this disease in the Administrative County during the year 1903, as against 22 in 1902, 50 in 1901, 52 in 1900, 102 in 1899, 87 in 1898, 77 in 1897, and 47 in 1896. The small number of deaths during the year from diarrhœa, as in 1902, is probably due to the exceptional coolness of the summer and autumn months ; but an interesting non-specific outbreak took place early in

the year at Irthlingborough, the account of which is appended. Of the total deaths which occurred, they were equally divided among the combined Urban and Rural Districts, and, with the exception of 1 in the Urban Districts and 2 in the Rural Districts, all were children under five years of age. The disease occasioned mortality in the Urban Districts of Brackley, Kettering, Oundle, Rushden and Wellingborough, and in the Rural Districts of Brackley, Brixworth, Hardingstone, Kettering, Middleton Cheney, Northampton and Towcester.

The following is the report of the Medical Officer of Health for the Irthlingborough Urban District :—

“ On February 11th, I reported to the Council the occurrence of a most extensive outbreak of Diarrhœa in the town, which, although entailing a great deal of suffering, caused no death. It affected a large number of the employees of Messrs. William Shortland and Sons’, as well as nearly all the inmates of about 20 cottages, owned by Mr. William Shortland, adjoining the factory. Although the patients lived in different parts of the town I made enquiries and found that all of them worked at that factory, and had been in the habit of drinking the water there which was pumped out of a deep well in the factory into a tank from which pipes ran to supply the various cottages as well as the factory. On making further enquiries from house to house I was informed that almost without exception all the inmates, including the children, were either suffering or had suffered from Diarrhœa, although comparatively few had sought medical advice. I also found that a good many of the cottagers had, after suffering from Diarrhœa, suspected the water and had given up using it. I called Mr. Shortland’s attention to the matter and advised him to cut off the water supply for drinking and domestic purposes, as I was afraid it was contaminated with sewage matter. This he

“ most willingly caused to be done, and the epidemic at once
 “ ceased. A sample of the water was sent to the Peterborough
 “ Public Analyst and his report proved that it was consider-
 “ ably polluted by animal organic matter, and quite unfit for
 “ drinking and domestic purposes. The cause of contamina-
 “ tion was soon made apparent. Owing to the large cistern in
 “ connection with the various water-closets in the factory not
 “ having been emptied at the proper time an overflow had
 “ taken place backward, along the sewer, into an inspection
 “ chamber in the factory, and within a few yards of the well
 “ from which the water was drawn. The sewage matter
 “ (human excreta) had reached to the top of the chamber, and
 “ part of it had overflowed the brickwork into the ground and
 “ percolated into the well. Mr. Shortland had the drains
 “ from the factory immediately connected with the main
 “ sewer and the cistern filled up. This most extensive out-
 “ break of what may be called ‘Non-specific Diarrhœa,’ is a
 “ most instructive one, as it proves that ordinary fœcal con-
 “ tamination of water does not cause Typhoid Fever. Had it
 “ happened that the man who, later on in the year, worked
 “ in a factory for at least two weeks while suffering from
 “ Typhoid Fever, had been employed at Mr. Shortland’s while
 “ so suffering—when the outbreak occurred—and had used a
 “ closet even once, there is no doubt that the epidemic would
 “ have been one of Typhoid Fever instead of Non-specific
 “ Diarrhœa. This epidemic shows, most conclusively, I think
 “ that, at least in certain parts of the town, a public water sup-
 “ ply is most urgently needed. A few cases of severe Diarrhœa
 “ occurred in March, amongst the inmates of the cottages on
 “ the Wellingborough Road, belonging to Mr. Dunmore. The
 “ drains were blocked from end to end and a leakage was
 “ taking place into the well. I ordered the well to be closed,
 “ and sent a sample of the water to the Analyst and his
 “ report showed that it was considerably polluted with sewage
 “ matter (recent pollution), and likely to be dangerous if

“used for drinking and domestic purposes. Mr. Dunmore, “most expeditiously, had the drains cleared and connected “with the sewer, and the well cleaned out, and no further “cases occurred.”

Influenza.—There were 35 deaths from this disease in the Administrative County during the year, of which 13 occurred in the combined Urban Districts and 22 in the combined Rural Districts. Only one death in the Rural Districts was of a child under five years of age. The disease occasioned mortality in the Urban Districts of Daventry, Kettering, Rothwell and Rushden, and in the Rural Districts generally, with the exception of Easton-on-the-Hill, Gretton, Hardingstone, Northampton, Towcester and Wellingborough.

The following references to the subject are to be found in the Reports of the District Medical Officers of Health. :—

DAVENTRY BOROUGH.—“This disease was exceedingly “prevalent in January and February, prevalent in March, “May, August, October and November, and a few cases were “to be met with during the other months of the year.” It occasioned six deaths.

DESBOROUGH URBAN.—“Influenza in its various phases “presented itself more or less during the year, but never in “any serious epidemic form. Happily it was not responsible “for any death.”

IRTHLINGBOROUGH URBAN.—The disease appears to have been prevalent to a slight extent in the beginning of the year, but no deaths occurred from it.

ISOLATION HOSPITALS AND DISINFECTION.

Although the Oundle and Crick Rural Districts are the only ones which can point to the establishment of isolation hospitals on a permanent basis during the year, the prevalence

of small-pox has had a stimulating effect on other districts in the County in the direction of, at any rate, emergency provision for the isolation of cases of that disease. It is possible that the action which has thus been taken by more than one district may lead to more satisfactory provision on a sounder footing. The following extracts from the Reports of the District Medical Officers of Health give information on this matter, and also on the subject of the need of efficient disinfecting apparatus :—

DAVENTRY BOROUGH.—“The Sanatorium has been three
“times opened during the year ; firstly, for small-pox from
“28th January to 28th March ; secondly, on 30th May for a
“suspected case of typhoid-fever removed from the Rural
“District,—as the case proved not to be typhoid-fever the
“patient was able to leave after a few days detention ; thirdly,
“for scarlet-fever from 25th August to 4th November. The
“Sanatorium has fortunately proved very useful, but its accom-
“modation would have been very inadequate had small-pox,
“scarlet-fever, and typhoid-fever occurred simultaneously, as
“only one kind of disease could have been admitted at a
“time.”

DESBOROUGH URBAN.—In consequence of the liability to the introduction of small-pox infection, a hospital was recommended. “It affords me pleasure to state that my
“recommendations were most sympathetically received ; and
“although all that was requested was not sanctioned owing
“to the stress of financial circumstances, the Council decided
“upon providing a wood and iron building. This was erected
“in July on a most suitable site of land near the Harrington
“Road, most generously lent by the Co-operative Society.
“The Hospital provides accommodation for four patients—two
“males and two females ; and is equipped with proper drain-
“age, good water, and excellent heating and cooking appar-
“atus. Taken altogether, the building may be described as

“the best of its kind for utility, comfort, and convenience,
 “and reflects great credit upon Mr. Diver, your Surveyor,
 “who had charge of all the arrangements for its erection and
 “furnishing. No sufferer from Small-pox need demur to
 “being taken there for care and treatment. . . . The next
 “step to take in this matter is the purchase of a Heat
 “Disinfecter, which would be found invaluable not only in
 “connection with this hospital, but also in dealing with many
 “other infectious diseases.”

KETTERING URBAN.—“Nearly all the cases of Infectious
 “Diseases notified during the year were removed to the Joint
 “Isolation Hospitals, which have not only been instrumental
 “in curtailing the spread of these illnesses in both Urban and
 “Rural Districts, more particularly the latter, but have greatly
 “simplified the arrangements which would have had to be
 “made in private dwellings, where cases of illness of this
 “character existed, and have been specially useful in allowing
 “other members of infected families to continue their em-
 “ployment ; the accommodation has been such that no case
 “has been refused admission. On January 1st, 1903, 4 cases
 “of illness remained under treatment, and during the year 95
 “cases were admitted from the Urban District ; of these 89
 “were discharged cured, 3 died and 7 remained under treat-
 “ment on December 31st, 1903. Eleven cases were admitted
 “from the Rural District, all of which recovered. From the
 “Urban District 11 cases of Typhoid-fever (all that were
 “notified) were admitted—10 recoveries, 1 death—and the
 “remainder of the cases were Scarlet-fever, which all re-
 “covered except 3.”

OUNDLÉ URBAN.—“We have a Hospital Tent, which has
 “been erected at Wakerley Cottage, and put up when cases of
 “small-pox appeared in the County.”

RAUNDS URBAN.—“Soon after this case occurred,”—
 small-pox—“an Isolation Hospital of wood and iron was

“ordered from Messrs Hawkins & Co. of Ashford, Kent, and
 “duly arrived, and was erected in May, 1903. The Hospital
 “contains 8 beds, in two wards of 4 beds each. Each ward
 “measures 20 feet by 20 feet ; the nurses room 10 feet by 10
 “feet ; the hall 10 feet by 10 feet. The outside is iron and
 “the inside lining wood ; all the woodwork is varnished ;
 “verandah with concrete floor and brick foundation. The
 “floor is raised 18 inches from the ground—well ventilated
 “underneath and cemented all over the site to prevent damp-
 “ness. The wards are heated by slow combustion stoves, and
 “ventilators are fixed on the roof. The whole place is well
 “lighted by windows on either side. We have also a four-
 “bed double canvas hospital, with nurses’ quarters, and
 “measuring 24 by 16 feet, wood floor, ventilators on the
 “roof, also two nurses’ tents complete and very comfortable
 “18 feet by 14 feet, and 8 feet by 8 feet. The site is a very
 “good one, being 210 feet above the sea level, on ground
 “sloping to the westward. The field is a mile from Raunds,
 “about half-a-mile from the nearest house, and 400 yards
 “from the road. It contains 16 acres of ground, and is sur-
 “rounded by a very strong hedge about 16 feet in height.
 “The land is held on lease by the Council with the option of
 “purchase. . . . The only other item wanting in connection
 “with the isolation hospital is a Disinfector, which we have
 “not got as yet.”

WELLINGBOROUGH URBAN.—“The Isolation Hospital
 “for zymotic cases has been kept in good condition, and 12
 “cases received treatment there during the year, namely 8
 “cases of scarlet-fever, 2 of diphtheria, and two of typhoid.
 “No fatal cases. . . . The Small Pox Hospital”—converted
 cottages—“is situated a mile from the town and is completely
 “isolated ; it is in good useful order and is seen regularly.”

BRACKLEY RURAL.—“The question of the Isolation
 “Hospital still remains in abeyance.”

BRIXWORTH RURAL.—“ I would call your attention to
 “ the fact that whenever the Borough Isolation Hospital is
 “ full, or there is epidemic illness in Northampton, you are
 “ without any place whatsoever to isolate any infectious cases
 “ that may arise in the district. In other words, you are
 “ practically powerless to stop an outbreak in epidemic form
 “ of disease imported into the District. A Disinfector would
 “ be of much service in the District, as it is often impos-
 “ sible to disinfect clothes and bedding in a proper manner.”

HARDINGSTONE RURAL.—“ The Infectious Hospital has
 “ not been used during the year, in fact, from the beginning
 “ of August, 1902, till the beginning of November 1903, not
 “ a single case of scarlet-fever was reported throughout the
 “ whole district. The case of small-pox was, however, treated
 “ in the small-pox carriages. . . I wish again to bear testi-
 “ mony to the efficient way in which Thresh's Disinfector
 “ works : it has now taken us through two rather dangerous
 “ looking outbreaks of small-pox, and all articles submitted
 “ to its treatment seem to have been most effectively disin-
 “ fected.”

MIDDLETON CHENEY RURAL.—“ There is no isolation
 “ hospital, neither is there any provision made for the disin-
 “ fection of infected clothing.”

NORTHAMPTON RURAL.—“ During the year, as cases of
 “ Small Pox seemed cropping up in different parts of the
 “ County, your Council have bought a tent in which to isolate
 “ such cases should they unfortunately happen. They have
 “ also made arrangements to rent a field in the vicinity of
 “ Kislingbury, on which to erect the tent in case of emer-
 “ gency ; at present no such necessity has arisen. . . As the
 “ new Midwives Act will shortly come into operation, the
 “ County Council have made enquiries as to the provision in
 “ your district for disinfecting clothes of midwives when

“ necessary under the provisions of this Act. Arrangements
 “ have been made with the Northampton Urban Council, by
 “ which any clothes sent to them by your Authority will be
 “ disinfected at a certain rate. I consider this a most wise
 “ step, and I hope by this means we shall be enabled to more
 “ satisfactorily disinfect clothes in cases of infectious disease,
 “ so that there will be no recurrence of such an unfortunate
 “ mishap as occurred in the case of Diphtheria at Kislingbury.”

OUNCLE RURAL.—“ The Isolation Hospital which has
 “ been under consideration for a long time is now an ac-
 “ complished fact, and will, I expect, be fit for the reception
 “ of cases during the year. A moveable disinfecting apparatus
 “ of the “ Thresh ” pattern has also been ordered, which will,
 “ I expect, be of great use.”

OXENDON RURAL.—“ We have no stoving apparatus for
 “ clothing and bedding and such is only available by the
 “ courtesy of the Market Harborough Urban District Council
 “ in allowing their apparatus to be used on request and pay-
 “ ment of the cost. There is no provision made within the
 “ District for the proper isolation of any case of Infectious
 “ Disease which might, from any circumstances, be unable to
 “ be properly isolated, so that in some instances, where a
 “ dangerous Infectious disease broke out in cottages, with
 “ scanty accommodation, and where there was a large family
 “ of children, serious risk and danger might occur by the
 “ inability to isolate the first case effectually. In most of the
 “ villages it is impossible as a rule to even secure an empty
 “ cottage to isolate any case that might be one of difficulty
 “ in that respect, and as the matter has stood and at present
 “ stands there is absolutely no provision or scheme in view to
 “ meet any contingency in this direction. Fortunately, the
 “ District for the last several years has been particularly
 “ immune through good fortune from any serious or exten-
 “ sive outbreak of infectious disease, but sooner or later some

“troublesome outbreak will occur with no provision effected
 “to deal with it. I again commend the matter to the attention
 “of your Council.”

TOWCESTER RURAL.—“The Council is to be congratulated on having acquired a ‘Thresh’s Emergency Disinfectant,’ a good example followed I believe by more than one neighbouring Rural District Council. It has been in frequent use, gives no trouble, and has proved satisfactory. The provision at the Workhouse of a Ward wherein a suspicious case may be isolated and kept under observation without admittance to the main building is a valuable addition to the means at our disposal for preventing spread of infection. The tents and accessories provided in 1902 and intended to be erected in the event of an outbreak of Small-Pox or other infectious disease are in good condition and available in case of need.”

WELLINGBOROUGH RURAL.—In regard to the Small-pox hospital site at Irchester, “A plot of land has been purchased by the Council, a well sunk, and a never-failing supply of water found. This has been tested by Dr. Voelcker, County Analyst, who certifies the water to be wholesome and pure.”

VACCINATION.

We have now had fully five years experience of the working of the Vaccination Act, 1898, and the time appears to me a suitable one for making some review of the effect of the act so far as figures are at present available. Unfortunately, I am not in a position to examine the question statistically beyond the year 1902; but, even so far, the situation which is revealed is a sufficiently interesting one.

A few words of explanation are necessary in regard to the Table entitled “Analysis of Vaccination Officers’ Returns

ANALYSIS OF VACCINATION OFFICERS' RETURNS, 1893-1902.

UNIONS OF THE COUNTY OF NORTHAMPTON.			PERCENTAGES OF BIRTHS IN RESPECTIVE YEARS.																						
			Certificates of "Successful Vaccination."					Certificates of "Conscientious Objection."					Children not finally accounted for.						Total Living Unvaccinated.						
			(Col. 1.)					(Col. 2.)					(Col. 3.)						(Col. 2 + Col. 3.)						
1893-97	1898	1899	1900	1901	1902	1898	1899	1900	1901	1902	*	1893-97	1898	1899	1900	1901	1902	*	1893-97	1898	1899	1900	1901	1902	
BRACKLEY	39·1	18·4	56·7	59·8	55·0	67·0	10·9	8·8	10·8	13·6	9·6	47·7	63·5	23·9	22·7	25·4	18·8	49·3	74·4	32·7	33·5	39·0	28·4	BRACKLEY	
BRIXWORTH	42·9	17·8	42·3	54·3	67·9	71·1	26·4	13·8	5·6	13·4	13·1	44·2	48·6	37·9	32·7	13·7	7·3	49·2	75·0	51·7	38·3	27·1	20·4	BRIXWORTH	
DAVENTRY	51·1	42·0	55·1	57·3	65·9	64·5	19·4	11·2	12·3	16·4	15·9	36·3	29·7	25·0	21·6	9·8	12·9	39·4	49·1	36·2	33·9	26·2	28·8	DAVENTRY	
HARDINGSTONE	38·5	29·8	58·0	48·5	47·8	60·5	48·5	24·5	33·6	37·4	28·4	42·7	11·3	7·0	10·3	8·1	4·6	51·1	59·8	31·5	43·9	45·5	33·0	HARDINGSTONE	
KETTERING	1·6	2·4	12·6	17·3	25·4	28·8	32·5	9·4	13·4	15·0	37·1	84·2	48·2	62·1	57·7	47·4	23·3	84·2	80·7	71·5	71·1	62·4	60·4	KETTERING	
NORTHAMPTON	3·7	4·2	14·0	13·2	21·9	29·9	48·5	12·8	22·1	28·8	44·8	74·2	32·9	60·7	54·1	37·8	13·9	83·3	81·4	73·5	76·2	66·6	58·7	NORTHAMPTON	
OUNDLE	82·8	82·4	83·7	85·2	86·7	87·8	2·3	2·8	3·7	4·7	3·0	9·0	8·1	5·6	5·1	2·6	3·0	9·2	10·4	8·4	8·8	7·3	6·0	OUNDLE	
+ PETERBOROUGH	84·0	71·3	75·8	77·6	77·5	79·3	0·8	2·4	2·4	2·4	2·5	7·6	16·7	11·1	9·1	9·0	9·7	7·6	17·5	13·5	11·5	11·4	12·2	PETERBOROUGH	
POTTERSPURY	58·9	43·3	62·5	57·1	60·1	64·7	38·0	22·1	27·3	28·4	21·6	29·2	10·0	5·0	3·8	4·2	7·5	33·0	48·0	27·1	31·1	32·6	29·1	POTTERSPURY	
THRAPSTON	10·9	19·3	39·9	40·8	45·5	48·4	44·9	42·6	46·5	45·8	39·3	72·0	26·7	9·2	7·0	3·2	3·7	79·7	71·6	51·8	53·5	49·0	43·0	THRAPSTON	
TOWCESTER	38·9	36·1	52·9	48·1	53·1	49·7	42·8	20·0	30·5	21·1	22·7	43·9	10·4	17·3	15·8	16·7	21·1	50·7	53·2	37·3	46·3	37·8	43·8	TOWCESTER	
WELLINGBOROUGH ...	1·1	2·0	12·2	10·0	16·8	40·3	43·0	15·3	10·9	9·3	33·7	82·2	43·1	61·0	67·9	64·3	17·9	86·4	86·1	76·3	78·8	73·6	51·6	WELLINGBOROUGH	
MEANS	25·7	21·4	33·5	34·2	39·7	48·3	33·3	12·9	15·9	17·9	28·4	58·4	33·0	41·9	39·8	32·5	14·2	62·8	66·3	54·8	55·7	50·4	42·6		

* In the Returns for the years 1893-97 the number of Certificates of Conscientious Objection received in respect of the children born in 1897 has not been included in the Percentages "Not finally accounted for," but allowance has been made for these in the "Total Unvaccinated."

+ The Soke of Peterborough is a County in itself, and I am therefore much indebted to the courtesy of the Clerk of the Peterborough Union for furnishing me with information for the purposes of this table.

N.B.—The Rural Districts of Crick, Oxendon, Gretton, Easton-on-the-Hill, and Middleton Cheney are included in Unions in the Counties of Warwick, Leicester, Rutland, and Oxford, and do not therefore enter into the above Analysis: on the other hand the Unions of Oundle and Thrapston each include a few parishes in Huntingdonshire.

1893—1902.” The figures of this table down to and inclusive of the year 1900, are taken from the Report of the Medical Officer of the Local Government Board for 1901—1902; the further figures for the years 1901 and 1902 have been calculated by me on information supplied to me by the Clerks of the respective Unions of the County. I have, further, altered the title of the last column by inserting the word “Living,” which I venture to think renders the meaning more clear, as the children who died unvaccinated are not included in the figures of that column.

The general effect of the Act, with its clauses for “conscientious objection” and domiciliary vaccination, has on the whole I think been distinctly favourable in this County, as compared with the average rate of successful vaccinations for the five years 1893—1897. The uncertainty of forecast and feeling of insecurity created by the Metropolitan outbreak of Small-pox in 1901, may also I think be credited with some measure of the improved returns of successful vaccination. But not less than these in their influence for good, have been in my opinion, the local appearances of Small-pox in different parts of the County itself. During the years 1901 or 1902, small-pox cases occurred in the Brackley Rural District and the Borough of Daventry, in the Daventry, Hardingstone, and Oundle Rural Districts, and in the Wellingborough Urban District. The figures for the Unions, of which these Districts form a part, during the years 1901 and 1902, are eloquent of the preference for vaccination as against the risk of contracting small-pox, although the Oundle Union has for long set an example to the rest of the Unions in the Administrative County which they have in the past been slow to follow. But I think also that other Unions than those referred to have felt the influence of the presence of small-pox cases close to their borders during the two years 1901—02, notably the Kettering and Northampton Unions.

The Act of 1898, though a great experiment, has, on the whole, I believe done something towards removing individual opposition to the performance of vaccination ; but it doubtless requires amendment, and the consideration of the question of systematic re-vaccination at an age to be determined on has yet to be taken seriously in hand. I must again record, as I have here and elsewhere for many years past, my firm conviction of the desirability of transferring the administration of public vaccination from the hands of Boards of Guardians to those of the executive authorities for the performance of public health duties.

The following few references in the Reports of the Medical Officers of Health are of interest :—

BRIXWORTH RURAL.—“Vaccination has been well carried out during the year : a large number of people have been re-vaccinated, and, from what I hear, the number of objections are less than they have been.”

WELLINGBOROUGH RURAL.—“Vaccination has been carried out more efficiently, with the exception of Great Doddington (in the Finedon district), where only one child has been vaccinated by the Public Vaccinator.”

TOWCESTER RURAL.—“As regards Vaccination I am indebted to the Vaccination Officer for the following figures. In the combined district 176 children were vaccinated. Exemption Certificates were granted to 73 ‘Conscientious Objectors,’ 21 children died unvaccinated, 9 left the district unvaccinated, and 5 were postponed. These figures do not of course at all correspond with the number of Births during 1903, as some children are included in the list who were born in 1902, and others born in the closing months of 1903 would obviously not appear till later.” The number of births in 1903 was 231, and in 1902 it was 238.

WATER SUPPLY.

With the progress which was made during the year in regard to certain schemes of public water supply it is pleasing to note that the towns of Kettering, Daventry, Higham Ferrers, Rushden, Finedon, and Irthlingborough ought soon to be in a sound and satisfactory condition, so far as the provision of this essentially necessary commodity is concerned. There is reason too to hope that the long drawn-out difficulties in the same direction at Raunds are also approaching solution. The excessive rainfall of the year had a very decided, and on the whole beneficial, influence on the water bearing capacities of the different water-sheds of the county, and it is particularly a matter for congratulation that so little illness was found to be attributable to the washing out of polluted soil into the innumerable shallow wells with which the Rural Districts abound. In connection with this subject, the remarks of the Medical Officer of Health for the Potterspury Rural District, under the heading of "Enteric Fever" in this Report, are worthy of attention as illustrating the peril which is often run in villages which have even had emphatic warnings, and I hope that more schemes for village water supplies, as at Badby in the Daventry Rural District, will be thought out and executed. There seems at last, after interminable delays, a fair prospect of the Long Buckby water scheme being brought to a satisfactory conclusion, and I trust that no further delay will occur.

The following references to this subject are to be found in the Reports of the Medical Officers of Health :—

BRACKLEY BOROUGH.—"The only changes to note are
 " (1) a progressive rise of the water in the well during the
 " year owing to the wet season, and (2) the fitting of the new
 " distribution gear to the pumping engines ; this was badly
 " needed as the old gear wheels were quite worn out. The

“water continues to be of the same excellent quality as heretofore.”

HIGHAM FERRERS BOROUGH.—“Satisfactory progress is being made in carrying out the scheme for providing this town and Rushden with a water supply. The mains have been laid, the service reservoir completed, and the remaining work is being pushed forward as rapidly as the unfavourable weather permits. Further observation, I understand, gives every promise that the supply afforded will prove abundantly sufficient.”

DESBOROUGH URBAN.—“The total number of houses now supplied with the town water is 603, leaving 228 houses depending upon shallow wells. I referred in my last Report to the marked fall of the water in the well at the Water-works, and to the experimental borings to be made on land near the Pipwell road. Unfortunately these experiments did not realise the anticipations originally entertained of them. Thanks, however, to the extraordinary increase of rainfall during the year all anxiety as to the Water-works Well has been removed, for the Surveyor reports that the water in the Well now reaches to the height of 18 feet, from which he is inclined to conclude that there is a good supply to last for a number of years.”

FINEDON URBAN.—“The new water scheme is slowly approaching completion, and will I hope, before I have to lay another report before you, be in good working order.” It also appears that 4 wells were condemned during the year.

IRTHLINGBOROUGH URBAN.—“An Inspector from the Local Government Board held an enquiry early in the year, and the scheme, as presented to him, was subsequently sanctioned by the Local Government Board. The various contracts for the work, after a great deal of delay and difficulty, have been let, and I have no doubt that operations

“will be commenced early in the New Year. I trust the
 “work will be carried out without undue or unnecessary delay,
 “as the need for a plentiful supply of water for flushing
 “purposes will become more urgent as the connections with
 “the sewer increase. In fact, the sewerage scheme can never
 “be really effective until the water scheme is completed.”
 The water from the well has, on analysis, proved to be very
 pure, but hard.

KETTERING URBAN.—“Some anxiety was felt in the
 “early part of the year as to the sufficiency of the Water
 “Supply, and special arrangements were made to ensure a
 “full supply until the new reservoir at Thorpe Malsor was
 “completed. The wet season has fortunately removed all
 “fears on this head, and the new reservoir, now in course of
 “construction, will no doubt be completed before any further
 “failing of the supply is felt. The Cransley reservoir has
 “been full, and often overflowing, for several months past.”
 From the Sanitary Inspector’s report, it also appears that
 “Thirty-three samples of Water were taken for testing,
 “resulting in 5 wells being cleansed, and 7 houses being
 “supplied with Council’s Water. Five pumps have been
 “repaired.”

OUNDLE URBAN.—“The supply is excellent in quantity
 “and quality, the latter is rather hard, and schemes are under
 “consideration for softening it; so far we have not arrived at
 “a satisfactory solution, the expense being very great.”

RAUNDS URBAN.—“As regards the Water Supply of the
 “town, there is little to be said—the source is still the same
 “as it always has been, and anything that has been done to
 “procure a pure water supply for the District has up to now
 “made no change in the state of affairs, as regards the actual
 “source. Some months ago a Report was read to the Council
 “upon the desirability of sinking a trial well in a field near
 “the Meadow Road, situated on the west side of Raunds, at a

“ distance of about $1\frac{1}{4}$ miles from the town and in a place
 “ quite safe from any chance or danger of contamination. In
 “ his Report the Surveyor, Mr. Yorke, says—‘ The position
 “ ‘ decided upon by the Water Committee is in my opinion one
 “ ‘ of the best sites within the District for the purpose.’ Mr.
 “ Yorke gives his reasons for the selection of this site, and at
 “ the end of his Report says :—‘ By making the boring on
 “ ‘ the site at the bottom of Meadow Road, the Marlstone or
 “ ‘ water-bearing strata would be reached at about 90 feet lesser
 “ ‘ depth than on the London Road site, consequently there
 “ ‘ would be a saving of at least £200 in the experimental boring,
 “ ‘ and further if you are fortunate in finding water at this site
 “ ‘ it would be the best position for a pumping station should
 “ ‘ you at any time find it necessary to increase the supply.
 “ ‘ Any water from the Oolite formation within the District
 “ ‘ could be conveyed to this point by gravitation and pumped
 “ ‘ up to the Reservoir or Water-tower.’ I hope, therefore,
 “ that we may be at last successful in solving this great
 “ question, which I consider to be of such importance to the
 “ town. So that our exact position at the present moment as
 “ regards a water supply for Raunds is—that we have pro-
 “ visionally purchased a site, and provisionally accepted a
 “ tender for sinking a trial well, and have applied to the Local
 “ Government Board for a loan for the cost of testing, and
 “ they have sent down for particulars on the usual forms for
 “ giving details of how the sum applied for is made up. We,
 “ therefore, now wait for Mr. Yorke’s Report to the Local
 “ Government Board supplying the necessary information.”

RUSHDEN URBAN.—“ Water supply has been rather short
 “ at times. The Council are taking every step possible towards
 “ completing their works.”

WELLINGBOROUGH URBAN.—“ The Water Supply is
 “ from public service, and the increase in quantity has been
 “ very satisfactory. In nature, it is well water, containing

“lime and iron, free from pollution being pumped from the
“wells, softened, filtered, and stored in closed locked reser-
“voirs.”

BRACKLEY RURAL.—“The supply has been augmented
“at Hinton, and work was carried out for this purpose at
“Eydon but the old supply was found adequate this year.”

BRIXWORTH RURAL.—“Analysis of twelve wells at
“Spratton were made ; ten returned as unfit for drinking.
“A second analysis was made, and then the water was given
“as good. Analysis of wells at Brixworth was also made ;
“the report was unsatisfactory. The wells were cleaned out
“and again analysed, giving a good report. The water supply
“to the rest of the District on the whole has been satisfactory.”

CRICK RURAL.—It is stated that the few public wells in
the district were “kept in good working order.”

DAVENTRY RURAL.—“The Long Buckby Water Scheme
“has I regret to say not advanced much during the year, the
“delay being chiefly due to the difficulty over the required
“land and the site of the well ; these are I hope nearly over-
“come, and I trust before long the work will be in hand.
“The Badby Water Scheme is now awaiting the Local Govern-
“ment Board’s approval of the plans, and their sanction to
“borrow £1,000 to carry out the work.” “In December an
“unusual pollution of two wells by Carbolic Acid took place
“at West Haddon ; it was found to have occurred owing to a
“faulty trap at one of the wells.”

EASTON-ON-THE-HILL RURAL.—“The water supply is
“the same as last year. For Easton a conducted supply of
“excellent water, the rest of the villages are supplied by wells.”

HARDINGSTONE RURAL.—“As might be expected after
“such a wet summer, complaints as to scarcity of water

“ which were becoming very frequent from the long series of
 “ dry summers have entirely subsided, the wells have been
 “ replenished, and there is now an abundant supply through-
 “ out the district. This is not an unmixed blessing, as much
 “ of the water supply is derived from shallow wells which
 “ are very liable to pollution, and more efficient means for
 “ providing the villages with water would probably prevent a
 “ great deal of sickness and ill health. Nevertheless, some-
 “ thing has been done in the way of providing improved water
 “ supply in some villages. The water supply at Denton was
 “ turned on by the Chairman in February last, and the scheme
 “ is to be still more extended. A good supply of water has
 “ been found for Brafield, and the scheme is now in the
 “ hands of the Engineer. The water supply at Wootton has
 “ been much improved ; three new pumps have been provided
 “ and put in three open wells down the village and the well
 “ mouths closed. This has been recommended by me for
 “ some time, and will greatly preserve the purity of the water
 “ supply as these wells were previously receptacles for all
 “ sorts of rubbish. The water supply at Hardingstone is still
 “ very efficient : for many years this supply has been depen-
 “ dent on wind power, and a plentiful supply of water has
 “ been forthcoming even in the driest summer.”

KETTERING RURAL.—“ The new water supply at Pytch-
 “ ley has turned out to be a great success, and the new supply
 “ for Stanion has proved all that was required. It is hoped
 “ the new supplies for Burton Latimer and Cranford will soon
 “ be available.”

MIDDLETON CHENEY RURAL.—“ With one exception
 “ the water supply throughout the whole district is good.
 “ The main supply arises from springs and wells. There is
 “ also a public supply laid on at Lower Boddington. Con-
 “ cerning the supply at the above village, during the past
 “ year the main became blocked through roots, and it was

“found necessary to take up the pipes and relay with cast
 “iron ones. The exception referred to above applies to
 “Spella House Farm, Upper Boddington. Here there is a
 “good supply of water, but the existing pipes are worn out,
 “consequently the water leaks away before reaching the
 “house. The tenant has, therefore, to obtain all drinking
 “water from the village, more than a mile away. The In-
 “spector of Nuisances has made repeated applications to both
 “owner and agent to have this rectified, and although receiving
 “numerous promises from them, nothing at present has been
 “done in the matter. The repairs carried out to the pump
 “and well at Overthorpe, at the commencement of last year
 “have proved successful, and there has not been further com-
 “plaint since their completion.”

NORTHAMPTON RURAL.—“The water supply at Kisling-
 “bury has been abundant and most useful. The water supply
 “at Heyford is also good, but, on account of a defective pipe,
 “it was reported during the summer that no water reached
 “the School premises. This has now been rectified, and I am
 “informed that there is a good supply throughout the system.”

OUNDLE RURAL.—“Six samples of water were brought
 “to me to be tested, one of which was condemned for drinking
 “purposes.”

OXENDON RURAL.—“The Water Supply of the District
 “has continued to receive attention. All the villages have
 “wells and most have a public as well as a private supply,
 “which as a rule give a sufficient amount of good quality.
 “The sources are good and contamination by local surface
 “conditions mostly accounts for any defects. Taking it on
 “the whole the general supply has been better, corresponding
 “with the wet season which has been experienced, but two
 “public wells were dry during the summer months. Various
 “samples have been taken from time to time of water which

“in the past have either been variable or unsatisfactory, and
 “with the exception of Braybrooke all have been satisfactory.
 “At this place special attention has been paid, and attempts
 “have been made to afford a better supply by attention to a
 “well supply on the Arthingworth Road, but, after excavation
 “all round, the soil was found so saturated with sewage that
 “the scheme was abandoned, arrangements have been made to
 “try and tap the source, which should be a good one, but
 “arrangements have not been completed with the owners yet.
 “The water supply for this area will require continued
 “attention during the ensuing year.”

POTTERSPURY RURAL.—“Wicken and Deanshanger
 “have public water supplies of good quality, the rest of the
 “district is dependent on shallow wells, more or less exposed
 “to contamination, but the opposition of small owners and
 “ratepayers to any scheme involving much expense prevents
 “the general adoption of a public water supply in all parts.”

THRAPSTON RURAL.—At Thrapston, “a water supply is
 “required”; at Brigstock there is a “scheme for providing a
 “good water supply,” which it is hoped will be carried out
 during the present year; and “the water supply for Wood-
 “ford continues to be found most satisfactory.”

TOWCESTER RURAL.—“The water supplied to Towcester
 “is now much improved in appearance, and there is no com-
 “plaint as to quality or quantity. Nothing has been done in
 “the matter of a Water Supply for Lichborough.”

WELLINGBOROUGH RURAL.—“Several samples of water
 “throughout the district have been submitted to analysis.
 “Those found polluted have been condemned, and the wells
 “ordered to be closed.”

DWELLING-HOUSES AND OVERCROWDING.

I am glad to be able to record that there appears to be no diminution in the amount of increased interest shown during recent years by the Medical Officers of Health in the County on this subject. Year by year the problem of the housing of the working-classes in the rural districts is growing in interest and not lessening in difficulty. Better accommodation is asked for, but the response, owing to the financial aspect of the question, is feeble. Much may be done to improve conditions of dwellings by reasonable repairs carried out in time, and something has been achieved in this direction ; but too often the owner of cottage property waits until it becomes a question with the local district council whether his property shall or shall not be declared unfit for human habitation before he bestirs himself. It is, however, unfortunately apparent sometimes that the want of action lies with the local authority, as in the Borough of Brackley, and I hope that some action of a remedial kind will be early taken by its Council in consequence of the serious nature of the report of the Medical Officer of Health.

The following references to this subject in the Reports of the District Medical Officers of Health are of interest, and several are deserving of special attention :—

BRACKLEY BOROUGH. — “Housing of the Working
 “Classes :—I have alluded to this subject in various annual
 “reports since 1891, and have pointed out that there are a
 “number of houses unfit for human habitation, and that there
 “is a want of good cottages in the town. In May, 1900, I
 “made a systematic inspection of the town and furnished you
 “with a list of houses which I condemned. A few months
 “ago I again made a house to house inspection, and again
 “forwarded a list of houses together with particulars as to
 “their sanitary condition, and the reasons which influenced
 “me in deciding that they are not fit for habitation. Some of

“them may be made habitable by suitable repairs, but the majority should be demolished. The shortage of cottages leads to overcrowding and exorbitant rents.”

DESBOROUGH URBAN.—“The plans for 14 houses and additions to two factories were passed. In this connection I may state that there is a great and growing demand for Cottages, the scarcity of which at present has a tendency to overcrowding in families. Although only one case of overcrowding has had to be reported, the Inspector has had to exercise a vigilant eye in order to prevent its occurrence in other cases.”

IRTHLINGBOROUGH URBAN.—“I am glad to be able to report that a good many of the old houses, which are hardly fit for human habitation, are still being deserted, and even the poorer people are becoming alive to the advantages of a house where they can obtain greater cleanliness and abundance of fresh air and sunshine. The better health they are bound to enjoy, must surely compensate them for the increased rental. . . . One case of overcrowding occurred during the year. Thirteen people (two families) were found living in one two-roomed house. Instructions were given for an abatement of the nuisance, which were attended to at once.”

KETTERING URBAN.—“Only one House has, during the past year, been condemned as unfit for human habitation ; this was situated in Goadby’s yard.”

RAUNDS URBAN.—“House accommodation for the working-classes is improving year by year. Many of the old houses have been renovated, and during the year 36 new houses have been occupied, and others are nearly ready for occupation. Building now goes on steadily from year to year, and we are gradually seeing the worst of the old

“houses either being entirely done away with and new
“houses built in their stead, or very much improved both in
“themselves and their surroundings.”

BRACKLEY RURAL.—“My attention has not been called
“to any case of overcrowding. . . . Plans have been passed
“for 10 new cottages, 1 slaughter-house, 1 bake-house, and
“1 public village room.”

BRIXWORTH RURAL.—“Eleven new cottages have been
“erected : twelve have been condemned, and nine of these
“have been made habitable. Six cases of overcrowding have
“been abated. Many of the cottages in the District are
“small, having only one or two bedrooms ; more good cot-
“tages are badly wanted ; especially at Brixworth, Moulton,
“and Spratton.”

HARDINGSTONE RURAL.—“Two new cottages have been
“erected at Piddington, and two at Roade. Three are in
“course of erection at Cogenhoe and seven at Hardingstone,
“but they are not yet occupied. One cottage at Yardley
“Hastings, has been condemned as unfit for habitation during
“the year, and an old cottage at Hardingstone has been
“demolished. Five cottages at Milton have been inspected
“and alterations ordered so as to render them more fit for
“habitation. One cottage at Wootton has been reported on
“account of its dirty condition, due unfortunately to the
“habits of its inmates ; and the closets at Mount Pleasant
“Cottages, Wootton, have been condemned as they are flooded
“by the least rain and rendered most obnoxious to the
“tenants.”

KETTERING RURAL.—The Sanitary Inspector reports as
follows :—“Fifty-eight new houses have been erected in the
“district, besides additions and improvements to existing
“buildings.”

MIDDLETON CHENEY RURAL.—“The house accommodation for the working-classes might be considerably improved. The majority are of a very antiquated structure, with thatched roofs, and, although there is a sufficiency of open space around them, many are in such a state of repair that further dilapidations will render them unfit for human habitation. Three dwelling-houses in the district have been declared unfit for human habitation. The defects in two cases, however, have been remedied and the houses are now occupied. There has only been one case of over-crowding in the district during the past year. No new houses have been erected.”

NORTHAMPTON RURAL.—“Picket Row, in Weston Favell, has again been before your Council on several occasions, but no permanent steps have yet been taken to improve these cottages. I consider that some clearance must be effected in this yard before its condition will be satisfactory.”

OXENDON RURAL.—“The House Accommodation as regards the working classes is good in most of the villages. There is a general sufficiency of open space about the houses. Only one new house has been erected and no insanitary dwellings or any case of overcrowding has been reported.”

POTTERSPURY RURAL.—“A case of overcrowding at Yardley and a house unfit for habitation at Hartwell were reported, and steps taken to rectify the same.”

THRAPSTON RURAL.—At Thrapston, “two cases of alleged overcrowding were investigated, but I did not advise that an action be taken in either case.”

WELLINGBOROUGH RURAL.—According to the Sanitary Inspector, “nine new houses have been erected during the

“year, for which water certificates were granted. 31 dwellings have been cleaned and repaired : 13 dilapidated ones closed ; four overcrowding cases and six filthy dwellings dealt with.”

EXCREMENT AND REFUSE DISPOSAL.

It is much to be desired that destruction of refuse by heat should become more general in the urban districts. Refuse is so disposed of in the Wellingborough Urban District and soon will be in the Kettering Urban District ; but no steps are being taken at present to follow the excellent and economical example of those Districts. The tipping up of land with house refuse, which may ultimately come into the market for building purposes, is a pernicious proceeding, and more particularly so when such refuse is partly composed of excrement. The utilisation of house refuse for the purpose of assisting in the generation of power and for the creation of clinker has much from the economic standpoint to recommend it. There is, moreover, evidence of progress being made in several of the urban districts, in the direction of eliminating excretal matters from their town refuse, by the increased number of connections with the sewers, and this fact will become of more importance as the subject of the future ultimate disposal of such refuse comes more and more to be considered. It is, however, astonishing that in a town like Thrapston there should be no system of public scavenging, and it is to be hoped that this matter will receive further consideration at the hands of the Thrapston Rural District Council at an early date.

The following are the more important references to the subject of refuse-disposal in the Reports of the Medical Officers of Health :—

BRACKLEY BOROUGH :—“ House refuse is removed weekly by the Council’s carts.”

HIGHAM FERRERS BOROUGH.—“The scavenging of the town has, I believe, been carefully and regularly done, and no complaints have reached me in reference to this important work.”

DESBOROUGH URBAN.—“The Pail Closets are now reduced to the low number of 26, 53 having been converted during the year into Water Closets. In view of this satisfactory state of affairs it has been decided by the Council, after giving a sufficient length of notice, to discontinue the collection of night soil, which will be the means of considerably reducing the expenses of the scavenging department.”

FINEDON URBAN.—“The pail system with its many defects is still very largely in use, though many permanent connections of closets to sewer have been made. In this case again it will be very desirable that all closets be so connected as soon as a sufficiency of water be available. There have been many complaints as to the manner in which the scavengers have done their work, both with regard to the emptying of pails and ash-boxes. These complaints were inquired into and as far as possible remedied.”

IRTHLINGBOROUGH URBAN.—“The scavenging of the town has been very efficiently carried out by the Council’s servants. Last year and the first half of this, a considerable part of their time was taken up in emptying the cisterns in connection with the various large factories. I am very pleased to be able to report that most of these factories have been connected with the sewer, so that the scavengers have now a great deal more time to devote to the ordinary routine work, and there is no reason why the town should not now be a model of cleanliness. I would recommend the Council to insist on the remaining factories and workshops being connected with the sewer as soon as possible. Connections of ordinary cottage properties have been carried out very slowly during the year, and Mr. Bayes has had great

“difficulty in getting some of the larger owners to move in-
“the matter.”

KETTERING URBAN.—“The House Refuse is still
“being carted away to a ‘tip’ outside the district, but the
“erection of the Destructor is well in hand, and approaching
“completion. This is being built by Messrs. Meldrum, and
“is of a guaranteed capacity of 25 tons of Refuse per day ;
“its actual capacity will be considerably in excess of this
“quantity. The arrangements are such as will readily admit
“of extension should that become necessary.”

RAUNDS URBAN.—“The disposal of excrement is still
“carried out in a satisfactory manner by your own scaven-
“gers, and although many houses have now water-closets
“in them, yet the pail system is still the principal one in
“the District : the water-closets never being perfectly work-
“able without an adequate water-supply, which has yet to
“come. House Refuse is removed by your own scavengers,
“and disposed of on the land well outside of the town by
“them. The system seems to work very well, and almost
“every house in the district has now a properly constructed
“zinc ash-bin, which is regularly emptied by your scavengers ;
“and in connection with this matter I may say that very few
“complaints have been heard against the scavengers during
“the year, and so far as I could see their work has been carried
“out in a very satisfactory manner.”

RUSHDEN URBAN.—“Several closets have been converted
“into the water system. There are still a number on the pail
“system, but they are in a satisfactory condition.”

WELLINGBOROUGH URBAN.—“House refuse is removed
“weekly and destroyed by incineration. During the summer
“months I would strongly recommend the removal oftener,
“if possible.”

EASTON-ON-THE-HILL RURAL.—“ There are still existing
“ Privy-vaults that are a source of danger, and ought to be
“ done away with.”

MIDDLETON CHENEY RURAL.—“ This being an agricul-
“ tural district, house refuse, &c., is generally disposed of by
“ the various occupiers either in gardens or on the land. In
“ most villages the disposal of excrement is in a very primitive
“ state. Many privy vaults and few covered-in ashpits exist,
“ pail-closets are almost entirely absent, and the frequency
“ and methods of removal of excrement generally are not
“ performed in any systematic manner.”

POTTERSPURY RURAL.—“ The district being an agricul-
“ tural one, house refuse, &c., is generally disposed of in
“ gardens or on the land, but pail-closets are increasing in
“ certain localities, and are emptied by the public scavenger.”

THRAPSTON RURAL.—Scavenging at the public expense
is again urged for the parish of Thrapston.

SEWERAGE AND SEWAGE DISPOSAL.

Each one of the constituted urban districts of the adminis-
trative county is now provided with a system of sewerage and
sewage disposal, though work is still in progress to improve
the conditions of more than one of the sewage disposal works.
Schemes of sewage disposal, adopted in recent years, for
other populous parishes not yet endowed with urban powers,
are also now in more or less satisfactory working order and
kept under observation. During the present year, I anticipate
that several other schemes will either be decided on or put in
hand. On the whole, it may be said that substantial progress
has been made during the last few years in this direction in
most parts of the county, and I hope that it will be continued.
I am impressed, however, by the fact that few of the sewerage
schemes which have been brought forward and sanctioned
have sufficiently provided for the effective ventilation of the

new sewers, and that it is desirable that in all future schemes more attention should be paid to this point at the time to avoid the necessity of adding ventilating shafts after the work is considered to have been completed. The necessity for such subsequent additions is always liable to bring an otherwise efficient scheme into local disrepute.

The following extracts from the Reports of the Medical Officers of Health are illustrative of the progress made during the past year :—

HIGHAM FERRERS BOROUGH.—“The sewage disposal works, and farm, continue to show good results.”

DESBOROUGH URBAN.—“The Union Street Sewer became partially blocked by silt from the road, which necessitated your Surveyor having it scraped, with the result that it is now working satisfactorily. The Outfall Sewer is not large enough to carry off the storm water ; this is, therefore, a matter which will require early attention. The flushing of the sewers has been well attended to, 1,478 loads of water having been used for this purpose alone. I would advise the Council to seriously consider the proposal of providing Automatic Flushing Syphons for the public sewer, especially in connection with cul-de-sac streets and other localities where the fall is insufficient. I feel sure that the outlay involved by such an undertaking would soon be recouped by the saving effected by the disuse of the cart and hose, whilst more efficacious results would obviously be ensured than can be obtained by the present method. I have already referred to the erection of Ventilation Shafts to the Sewers ; it will be necessary before long to add to these. The Sewage Disposal Works now consist of nine acres of land, with precipitation tanks and filters capable of holding 36,000 gallons and 10,000 gallons respectively. Samples of the effluent, on analysis, yielded good results, indicating that the process of sewage treatment in vogue at the farm is satisfactory.”

FINEDON URBAN.—“ More drains have been connected
 “ to the sewer during the year, and it will be very desirable
 “ as soon as we get the water supply on that the Council
 “ should insist upon all drains being so connected. . . . In
 “ my last Annual Report I complained of the stench arising
 “ from the various manholes in connection with the sewer,
 “ and suggested more ventilation and the making air-tight
 “ some of the manholes, as a means of diminishing the
 “ nuisance until such time as we get a proper supply of water
 “ for flushing purposes. The nuisance is still in existence.
 “ The style of hooded ventilating shaft used by the Irthling-
 “ borough Urban District Council is I think superior and
 “ certainly more sightly than the one in use here.”

IRTHLINGBOROUGH URBAN.—“ The Sewerage Scheme
 “ is now complete and pumping operations have been carried .
 “ on during the greater part of the year. It is very important
 “ that the surface channels on the farm should be systematically
 “ made so as to allow of equal distribution of the sewage matter
 “ over the land. My attention has been called, more particu-
 “ larly, to the offensive smell arising from a manhole in
 “ Church-street and from another behind Lime-terrace. I
 “ would recommend the Council to erect ventilating shafts in
 “ these districts to remedy the nuisance, and I also think that
 “ the flushing of the sewers should be more regularly and
 “ systematically carried out.”

KETTERING URBAN.—“ At the Sewage Disposal Works
 “ the greater part of the osiers have been removed, and it is
 “ proposed to remove the remainder after they have been cut
 “ this year, the ground where these were planted became
 “ almost impervious to water, and could not be cleaned when
 “ the crops were grown. On removal of the osiers the ground
 “ has been thoroughly cleaned, and the ridges split, to present
 “ fresh surfaces for sewage effluent when pumped on ; by
 “ these means the effluent, which has been fairly good, will

“ be still further purified. The new Flushing Chambers constructed on the sewers throughout the town have enabled a more frequent and thorough flushing of the sewers to be carried out. The Automatic Flushing Syphons have worked satisfactorily. A further extension of the sewers has been in hand on the Co-operative Society’s Estate at the north end of the town, and is still in progress. The Sewers are of sufficient size, and are being laid at a suitable depth to serve as outfalls for the whole of the district beyond.”

OUNDLE URBAN.—“ The sewerage and drainage of the town have been very satisfactory and several fresh connections have been made with the main sewer.”

RAUNDS URBAN.—“ The new sewer now extends to every part of the town and seems to carry out its work well. The flushings have been carried out regularly during the year through the main branch by the flushing-dam and sluice near Chambers’ Row, and in the other branches by the 350 gallon water-van specially constructed for the purpose. The year having been an exceptional one as regards the rainfall, the Raunds brook and its tributaries have been thoroughly washed out regularly during the year, and bad smells either from the brook or sewer manholes have been very little complained of during 1903.”

WELLINGBOROUGH URBAN.—“ The drainage of the town is good, and the sewage is treated by Broad Irrigation at the Sewage Farm.”

BRACKLEY RURAL.—“ New sewers have been laid at Culworth, Sulgrave and Kings Sutton, and work is being done in this direction at Croughton.”

BRIXWORTH RURAL.—“ During the past year, Cold Ashby Sewer Extension and Filtration Works have been carried out. Creaton sewers have been put down, and two

“ acres of land laid out for filtration. Upwards of £200 has
 “ been spent on improvements and extension of out-fall drains
 “ at East Haddon.”

CRICK RURAL.—“ Sewer outfalls have been properly
 “ attended to.”

DAVENTRY RURAL.—“ On May 23rd, I attended a Local
 “ Government Board Inquiry at Woodford-cum-Membris
 “ regarding a further loan of £600 for Sewage Disposal :
 “ I also went over the new sewage works, and found them
 “ working satisfactorily.”

GRETTON RURAL.—“ Considerable improvement has
 “ been effected in the sanitation of the village of Gretton,
 “ where some 300 yards of sewerage and re-sewerage has just
 “ been completed.”

HARDINGSTONE RURAL.—“ The sewage scheme for
 “ Yardley Hastings is now in hand : I have pointed out that
 “ no scheme for this village will be satisfactory unless it
 “ provides for the total abolition of the present cesspools down
 “ the main street. A scheme is being worked out for the
 “ disposal of the sewage at Cogenhoe. The sewage farm at
 “ Brafield, has been placed in working order, but in the sum-
 “ mer there were great complaints of the smells from the
 “ sewage ventilators in the village, and I advised that two
 “ ventilating shafts should be erected in the village, and some
 “ open gratings should be placed in the field between the village
 “ and sewage farm, as there was a long stretch of piping here
 “ without any means of ventilation.”

KETTERING RURAL.—“ Fresh arrangements as to Drain-
 “ age have been made at Corby, Barton Seagrave, Geddington,
 “ Cranford, Warkton, Thorpe, Weldon, and Cransley, and a
 “ Sewage Scheme for Burton Latimer will soon be carried
 “ out.”

MIDDLETON CHENEY RURAL.—“There is no regular
 “sewage system in the district, neither is there any definite
 “system for its eventual removal. The main sewers, however,
 “have worked satisfactorily. In the villages of Middleton
 “Cheney and Upper Boddington it was found necessary to
 “repair the main sewers, which was done with good results.”

NORTHAMPTON RURAL.—“The drainage scheme at
 “Duston seems to be working well ; I have heard no com-
 “plaint of it, and, when I have visited it, I could detect no
 “unpleasant smell, but the men working there tell me that
 “occasionally it is somewhat disagreeable. Mr. Paget, the
 “County Medical Officer of Health, has quite recently pointed
 “out to me that he considers enough use is not made of the
 “land, and that it flows too constantly over the same surface.
 “I have suggested easy means by which I consider this may
 “be rectified, and your Council has just given orders for this
 “to be carried out. The scheme for the interception and
 “purification of the Bugbrooke Sewage before it enters the
 “river is in course of completion, but at present it is too
 “early to speak as to its success.”

OXENDON RURAL.—“The Drainage of the various parts
 “of the District has continued to be improved during the
 “year, and some good work has been carried out. At Marston
 “Trussell an entire new sewer to drain the lower part of the
 “village has been laid with a new settling tank and a coke
 “filter, this extension is in connection with the main street
 “sewer, which was improved last year. The whole sewage
 “which was filtered before is now dealt with at the outfall,
 “and the drainage at Marston is better provided for than any
 “district in the area. At Sibbertoft a new settling tank has
 “been built and is in good working order. The Sutton Bas-
 “sett outfall has been extended 100 yards beyond the village.
 “Referring to the Welford drainage, which was reported last
 “year as being unsatisfactory, nothing further has been

“effected, though the outfalls draining into the Avon have
 “received special attention on several occasions in being
 “cleaned out, there being a complaint last year of the pol-
 “lution of this one source of the Rugby supply. Kelmarsh
 “has had ventilating shafts fixed, and the sewers have been
 “trapped, and at Stoke Albany 100 yards of new sewer has
 “been laid and it is proposed to lay another 96 yards.
 “Taking the drainage of the District as a whole, the larger
 “villages have their settling tanks, which are emptied and
 “disinfected every quarter, whilst properties not connected
 “with a drainage system have the usual accommodation
 “which is dealt with and cleansed as required, where pail
 “and earth closets are not in use.”

THRAPSTON RURAL.—“The drainage and sewage dis-
 “posal works for Ringstead have been practically completed,
 “and cannot fail to prove of great benefit to the place.”

TOWCESTER RURAL.—“The Towcester Sewage Farm is
 “in satisfactory working order.”

WELLINGBOROUGH RURAL.—“The drainage of Mears
 “Ashby, Wilby and Isham are waiting the sanction of the
 “Local Government Board. . . The Sewage scheme at
 “Little Harrowden is satisfactory, and an improved drainage
 “at Great Harrowden has been carried out by Earl Fitz-
 “william. Irchester sewage scheme is nearing completion.
 “Several flushing chambers have been constructed at New
 “Barton, are used periodically, and are acting satisfactorily.”

RIVER POLLUTION.

The following abstracts may also be read as supplements
 to the foregoing statements with regard to the progress being
 made in respect of sewage schemes.

DAVENTRY RURAL.—“Steps are being taken to prevent
 “the pollution of the River Nene by sewage from Badby ;
 “and plans are also prepared for Floore with the same object
 “in view ; I hope that before long those for Weedon will
 “be considered, as there is a great deal of River Pollution
 “taking place at Weedon.”

HARDINGSTONE RURAL.—“The disposal of the refuse
 “matter from the fell-mongering and tallow business carried
 “on at Rush Mills, has required much attention during the
 “year. Filtering tanks have been erected to purify the
 “effluent before its discharge into the river, but, at my last
 “visit, the place was flooded with sewage matter on account
 “of the recent heavy rains. Some further plan will have to
 “be devised, and the matter is now receiving consideration,
 “not only from myself, but also from Mr. Paget, the County
 “Medical Officer of Health, who is kindly acting in conjunc-
 “tion with me. The difficulty arises from the low position
 “of these mills close to the river, and they are often subject
 “to heavy floods.”

LODGING-HOUSES.

There are not many common lodging-houses in the county, and what there are appear from the Reports of the Medical Officers of Health to be conducted in a satisfactory manner. The one in the Borough of Daventry is said to have been regularly inspected, “the lodging-house in Thrapston
 “has been periodically visited, and is stated to be clean and
 “well conducted,” and the Sanitary Inspector for the Potterspury Rural District reports that “the lodging-house at Old
 “Stratford has been kept satisfactorily.” The Medical Officer of Health for the Kettering Urban District also says, “the
 “only Licensed Lodging-House in the town has always, on
 “inspection, been found to be clean and never over-crowded.
 “On the occasion of the outbreak of Small-pox recorded

“above, the proprietors and all connected with the management of the place gave your Officers every assistance in their power to prevent the spread of this disease, and willingly fell in with the somewhat stringent regulations imposed upon them.”

SLAUGHTER-HOUSES.

In Brackley Borough the slaughter-houses “have been inspected, and all found satisfactory,” are said to have been regularly inspected in Daventry Borough, and in Higham Ferrers Borough “have been regularly inspected, and are kept in a satisfactory condition.” The following are more extended reports on the subject :—

DESBOROUGH URBAN.—“The only complaint there is to make as a result of inspections of Slaughter Houses, which otherwise were found clean and satisfactory, is in connection with the yard attached to one of them, where the practice of permitting an undue accumulation of manure and other refuse has frequently required the intervention of your Sanitary Inspector.”

FINEDON URBAN. — “All the slaughter-houses and butcher’s shops have been regularly inspected, lime-washed, and painted.”

IRTHLINGBOROUGH URBAN.—Four are said to be always found well kept and clean, and two require to be put in order at once or closed forthwith. The owners are under notice to put the premises in a sanitary condition.

KETTERING URBAN.—“I feel it is my duty still to bring before the notice of your Council the importance of a Public Slaughter House, the advantages of which to the public health must necessarily be great, on account of the possibility of examining all animals before slaughter and the carcasses afterwards.”

RAUNDS URBAN.—“The Rules and Regulations concerning Slaughter Houses have been well carried out, and every slaughter-house in the District is in a thoroughly clean and sanitary condition.”

In the Urban Districts of Oundle and Rushden, the slaughter-houses are said to be in good condition, and satisfactory on the whole at Wellingborough. Similarly, they have been inspected in the Rural Districts of Brackley, where they were found “in a satisfactory condition except in one or two instances where orders have been served to amend the faulty conditions,” of Easton-on-the-Hill, of Middleton Cheney, where a few minor defects were promptly remedied, and of Thrapston, where they are “reported to be in a satisfactory condition.”

DAIRIES, COWSHEDS, AND MILK-SHOPS.

The registration of Dairymen, Cowkeepers, and Purveyors of Milk is now enforced in every district in the administrative county, I am glad to be able to record that Regulations are now in operation in the Rushden Urban and Hardingstone Rural Districts, so that the total number of Urban Districts with Regulations is 10, and of Rural Districts 9. I wish I could foreshadow the early prospect of other Districts similarly adopting Regulations for the care of the supply of that most essential food of infants,—milk—, especially as the rate of infantile mortality is in many parts of the county capable of considerable reduction ; but I hope the matter may be again taken into consideration by those Councils who have hitherto not thought them necessary.

The following references from the Reports of the Medical Officers of Health show that satisfactory supervision is maintained by them :—

BRACKLEY BOROUGH. — “Dairies and Cowsheds :—
“There are four registered, all in good condition.”

DAVENTRY BOROUGH.—They are said to have been regularly inspected.

HIGHAM FERRERS BOROUGH.—“The dairies, milkshops,
“and cowsheds have been regularly visited, and found clean
“and satisfactory.”

DESBOROUGH URBAN. — “The Dairies and Cowsheds
“were inspected during the year and found in a clean and
“sanitary condition.”

FINEDON URBAN.—“All the dairies have been regularly
“inspected and lime-washed ” ; also “all cowsheds have been
“regularly inspected and their cleanliness and ventilation
“insured.”

IRTHLINGBOROUGH URBAN.—Complaint is made of the stock-yards being often in a bad state from defective drainage and accumulations of manure.

RAUNDS URBAN.—“Two cowsheds required paving and
“draining, and these were attended to.”

RUSHDEN URBAN.—“Cowsheds, Dairies and Milkshops
“have been inspected at intervals and are satisfactory. The
“Council have adopted a code of regulations for the better
“arrangement of cowsheds and dairies, which came into
“operation on January 1st, 1904.”

WELLINGBOROUGH URBAN.—They were visited and found satisfactory on the whole, and necessary improvements were carried out.

BRIXWORTH RURAL.—“Dairies and Cowsheds have
“been inspected, and found satisfactory on the whole.”

HARDINGSTONE RURAL.—“ All these dairies and cowsheds have been visited during the year, and a full report on them has been presented by me to your Council. Some of them were of modern construction and very well devised and kept in good order. Others required only minor alterations chiefly as regards the ventilation and drainage, and, when these have been carried out, they will come well within the requirements of the Act. In most of these cases the tenants seem willing to comply with the provisions of the Act, and to carry out the improvements suggested to them. Two dairies have been unconditionally condemned from their very dirty state. I have been informed that both these tenants have given notice to leave their farms, and possession will be given up by next Lady Day.”

MIDDLETON CHENEY RURAL.—“ Dairies and Cowsheds, and places from which milk is sold are on the whole well kept.”

NORTHAMPTON RURAL.—“ The dairies and cowsheds have been visited during the year. As in almost all cases the cows are in the fields during the day time, there is not in most cases much to complain of. Where necessary, orders have been served to remedy any faults, and when these are completed I hope the dairies will be in a fairly good condition.”

OUNDLIE RURAL.—“ The Milkshops and Dairies were visited, and reported to be in a satisfactory condition.”

OXENDON RURAL.—“ The Dairies and Cowsheds Order was brought up for consideration, and, whilst it was decided to cause them to be registered under the Act and regularly supervised, no by-laws regulating them were formulated.”

POTTERSPURY RURAL.—The report of the Sanitary Inspector is that with the exception of a few cases respecting limewashing there has been no complaint.

FACTORIES AND WORKSHOPS (BAKE-HOUSES).

Continued attention is evidently being paid to the important subject of the condition of workshops and workplaces, under the Factory and Workshop Act, 1901. I have already referred to this matter, and now append extracts from the Reports of the Medical Officers of Health :—

BRACKLEY BOROUGH.—“ Bakehouses :—Two were found “ faulty, but were at once put right by the owners. . . “ There are 17 workshops on the Register, they have been in- “ spected and found to comply with the conditions of the Act.”

DAVENTRY BOROUGH.—“ During the year a list of Work- “ shops and Workplaces has been obtained, and their premises “ inspected by the Inspector of Nuisances and myself, and “ found to be satisfactory.” The Bakehouses are also said to have been regularly inspected.

HIGHAM FERRERS BOROUGH.—“ I have made an in- “ spection, with the Sanitary Officer, of the whole of the “ factories in the town. For the most part the sanitary con- “ ditions are satisfactory, but in a few instances either minor “ improvements, or structural alterations, are needed to meet “ the proper sanitary requirements. This has been pointed “ out to the occupiers.”

DESBOROUGH URBAN.—“ Visits to Factories, Workshops, “ and Bakehouses have been made, and these places were “ found, on the whole, in a satisfactory condition. I may here “ remark that there appears to exist a regrettable tendency “ on the part of the workers in some of the factories and “ workshops to close the ventilators.”

FINEDON URBAN.—It is reported, “that the Bakehouses
 “have been regularly inspected and lime-washed ; that all
 “the factories have been regularly inspected, and that in no
 “case has there been any overcrowding or other cause of
 “complaint ; that all the out-workers on the lists have been
 “visited and their workshops inspected.”

IRTHLINGBOROUGH URBAN.—“The factories, workshops,
 “and workplaces have been visited and inspected periodically
 “by myself and Mr. Bayes, and I am pleased to report that
 “the requirements of the Act have, on the whole, been very
 “satisfactorily carried out. Ventilation, the necessity for
 “which I pointed out in my report last year, has received
 “greater attention. There has been no cause of complaint
 “for general cleanliness, or overcrowding. I must, however,
 “seriously complain of the filthy condition in which the
 “w.c.’s were kept in several of the largest factories. The
 “manufacturers can hardly be blamed as they have provided
 “excellent sanitary convenience, but the workmen do not
 “seem to appreciate them and appear to take not the slightest
 “trouble to keep them in a clean and healthy condition. I
 “hope the manufacturers will devise some means by which
 “this nuisance can be rectified. Small workshops and work-
 “places are becoming fewer each year, as, owing to the
 “present conditions of labour, most of the men work inside
 “the factories. . . The exits in all the factories have been
 “improved to meet the requirements of the Act. All the
 “bakehouses have been periodically inspected and with one
 “exception found satisfactory.”

KETTERING URBAN. — “Bakehouses and Workshops
 “have received frequent attention, and where faults have
 “been discovered they have been always corrected. There is
 “only one underground Bakehouse in the district ; the
 “ventilation of this has been greatly improved, and a certifi-
 “cate has been granted.”

OUNDLE URBAN.—“The Workshops have been visited
“and found satisfactory as to lighting, air space, ventilation,
“and sanitary appliances.”

RAUNDS URBAN.—“All the Workshops are in a satis-
“factory condition as regards sanitation, sanitary conveniences,
“air-space, ventilation, and general cleanliness, and during
“the year it has not been necessary to take any action to
“enforce the removal of any nuisance injurious to health,
“either under the Public Health Act or under the Factory
“and Workshops Act. Within the past few years the out-
“workers have become fewer year by year, almost the entire
“male, as well as many of the female, population being now
“in the factories or workshops, where I consider that, so far
“as their health is concerned, they are in a much better
“condition than they were in the small work-rooms in their
“own houses, or even the little workshops at their own back
“doors. The few workshops and workplaces still in use are
“now of a superior description to those of former days, and I
“can make no complaint upon them. The work now done at
“home is generally the cleanest and healthiest kind of shoe
“work ; and no shoe work is now done in the dwelling-
“houses by the men, and not much by the women. Only
“one workshop had to be closed on account of its unfitness
“for occupation, being both unsafe and insanitary. Altogether
“the Workshops, Workplaces, and Bakehouses in the District
“are in a perfectly healthy condition, and fulfil all the require-
“ments of the Factory and Workshops Act, 1901.”

ROTHWELL URBAN.—“During our usual inspection of
“the Factories, when any notable or glaring defect was pointed
“out, it was rectified.”

RUSHDEN URBAN.—“All factories and workshops have
“been visited at intervals and are kept in a satisfactory con-
“dition. The names and addresses of 187 employees to whom

“ work has been sent out in other districts have been given
 “to the Sanitary Inspectors of those districts.”

WELLINGBOROUGH URBAN.—“ The requirements of the
 “ Factory and Workshops Act dealing with the lists of out-
 “ workers have been duly carried out. The whole of the
 “ workshops have been regularly visited ; notices have been
 “ served for cleansing and whitewashing, making new dry
 “ floors, and improving the ventilation and light, and also
 “ for the provision of suitable and sufficient sanitary con-
 “ veniences. In all cases the improvements were efficiently
 “ carried out, and the defects properly remedied. Lists of
 “ out-workers have been received from the employers in the
 “ district, and where the out-workers are residents of other
 “ districts, the Sanitary Inspector has forwarded their names
 “ to the Sanitary Authority where they reside.”

“ BRACKLEY RURAL.—“ I have visited the few work-
 “ shops registered under the Factory Act, 1901, and have
 “ found them fulfil the conditions.” The Bakehouses were
 also visited and found generally in a satisfactory condition.

BRIXWORTH RURAL.—“ Factories and Workshops are
 “ kept up to the required standard, as far as cleanliness and
 “ sanitation is required.”

DAVENTRY RURAL.—“ I spent a good deal of time under
 “ the Factory and Workshop Act, 1901, in visiting the factories,
 “ workshops, and workplaces in the District, but in a purely
 “ Rural District these are not numerous. I found them as a
 “ whole satisfactory, and the various sections of the act com-
 “ plied with.”

EASTON-ON-THE-HILL RURAL.—The Bakehouses are re-
 ported to have been inspected as usual.

GRETTON RURAL.—“There are 22 Workshops, six of
 “which are Bakehouses. These are regularly inspected, and
 “lime-washing ordered when necessary. There are 23 out-
 “workers residing within the district. No case of Infectious
 “Disease has been recorded.”

HARDINGSTONE RURAL.—“Small factories exist at
 “Yardley Hastings, Cogenhoe, Piddington, and Hackleton
 “(now closed). These have all been inspected and have been
 “kept in a satisfactory condition. A list of the out-workers
 “has been furnished to me chiefly by the Medical Officer
 “of Health for the town of Northampton. Their dwellings
 “have been inspected, and they are in no case injurious or
 “dangerous to the health of the workers. These out-workers
 “are scattered more or less throughout the whole district and
 “not in any particular village.”

MIDDLETON CHENEY RURAL.—It is stated that the
 bakehouses have been inspected, that minor defects were
 promptly remedied, and that there are no factories in the
 district.

NORTHAMPTON RURAL.—“As regards the Factory Act
 “there is nothing to add to my remarks of last year. There
 “are only a number of small workshops in some of the
 “villages ; these are visited periodically, and any nuisances
 “at once remedied. The bakehouses are clean and regularly
 “whitewashed ; there are no underground bakehouses.”

OXENDON RURAL.—“With reference to section 132 of
 “the Factory and Workshops Act, 1901, I have to report that
 “there are no Factories or Workshops within the District,
 “but a proper list of the Bakehouses is duly kept, and in-
 “spections of the premises have been made and all sanitary
 “requirements have been carried out with reference to them.

“The keeping of lists of Out-workers, has been duly performed and notice given to other Councils as required. There are seven Out-workers at Braybrooke, two at East Farndon, and thirty-one at Welford, all have been visited and inspected and no insanitary conditions found, no cases of overcrowding, and no case of dangerous Infectious Disease has existed.”

POTTERSPURY RURAL.—There appear to be two factories only in the district. “These factories are kept in a clean state, have no wet floors, are free from effluvia arising from any drain, water closet, &c., are not over-crowded, are properly ventilated, and have suitable sanitary accommodation. No home work is given out, and an abstract of the Act is affixed where required by section 133. Provision is also made for safety from fire. With regard to bakehouses, the Sanitary Inspector reports that they have been kept in a fit state to comply with the Factory and Workshop Act of 1901. There is only one underground bakehouse in the district, but it has been certified as it complies with the provisions of Clause 4, Section 101, as regards construction, light, ventilation, and in all other respects.”

THRAPSTON RURAL.—The Bakehouses are reported to have been inspected and found in a satisfactory condition. It is also reported that “The Workshops in the District have been inspected and found to be in a satisfactory condition. The number of small workshops, employing two or three hands, used for shoe-making, is declining, as more work is done in regular factories. An outside iron stair-case has been erected at the Woodford Clothing Factory, for use in case of fire, and appears to be quite satisfactory. Although I am aware that, owing to the number of hands employed being under 40, you are not able to deal directly with the Brigstock Clothing Factory, yet I would again ask you to see whether

“something cannot be done to procure exits in case of fire ;
“in my opinion it is a most dangerous building.”

TOWCESTER RURAL.—“In accordance with the Factory
“and Workshop Act, 1901, I have visited and inspected
“various Workshops and Work-places, including bakehouses,
“and have been satisfied as to their cleanliness, air-space,
“ventilation, drainage and sanitary arrangements. These in-
“spections were independent of enquiries made in consequence
“of complaints.”

WELLINGBOROUGH RURAL.—“Factories and Workshops
“have all been inspected at intervals and kept in a satisfactory
“condition. The workers whose families have been notified
“as suffering from infectious disease have been prohibited
“from taking in work at home.”

FOOD INSPECTION.

There does not appear to have been much unsound food exposed for sale during the year in any district of the administrative county ; but in the Kettering Urban District the Inspector says that “nineteen boxes of Tomatoes, 4 pieces
“of Beef, and 1 Pig, being found unfit for food, were con-
“demned and destroyed.” The Medical Officer of Health for the Irthlingborough Urban District reports as follows :—
“In March I had a few cases of ptomaine poisoning, and on
“investigating the case I suspected some tinned American
“pressed beef, which all the patients had partaken of. I
“reported the matter to your Sanitary Inspector, and he, at
“once, seized the remaining portion of the meat, which I
“examined and found quite unfit for food. In August, a
“barrel of apples was condemned and ordered to be
“destroyed.” From the Wellingborough Urban District it is reported that “the markets have been visited each market
“day. There has been no unsound or diseased food,” while
“no case under this heading was reported during the past
“year ” in the Potterspury Rural District.

CEMETERIES AND CHURCHYARDS.

The following reports are made by the Medical Officers of Health for the several districts named :—

IRTHLINGBOROUGH URBAN.—“As the present Cemetery will, in a few years, be filled, arrangements have been made by the Council, with Mr. John Allen, for the purchase of a piece of land adjoining the present Cemetery. All the owners, lessees, and tenants within the statutory distance have given their sanction to the proposed scheme, and the Council is now awaiting an inquiry by an Inspector of the Local Government Board.”

ROTHWELL URBAN. — “Our new Cemetery, opened during 1903, is now in use, and is certainly a great advantage to the place.”

BRIXWORTH RURAL.—“The Churchyard at Spratton, which I reported as over-crowded, and recommended a Cemetery, has now been closed by the Local Government Board. A new burial ground has not yet been opened.”

WELLINGBOROUGH RURAL.—“The Cemetery at Bozeat is complete and ready for use.”

OFFENSIVE TRADES.

There are very few reports under this heading, but from them it may be gathered that the single tan-yard in the Borough of Brackley is in a satisfactory condition, and that no offensive trades have been carried on in the Middleton Cheney, Oxendon, and Potterspury Rural Districts. No mention is made of the smell which used to be very offensive from the fell-mongering business at Rush Mills in the Hardingstone Rural District, but it is a fact that there has been improvement in this respect.

BYE-LAWS.

The following references to the subject of local bye-laws are interesting and worthy of special notice :—

KETTERING URBAN.—“ ‘The Kettering Improvement
 “ Bill’ now deposited in Parliament, so skilfully and care-
 “ fully prepared by your Clerk, Mr. Bond, will, when passed,
 “ give great assistance to your Officers in many ways, of which
 “ I may specially mention the following :—The Clause for the
 “ control of those who make Ice Creams, and those who deal in
 “ them and expose them for sale, is an important one and likely
 “ to prove very useful. The Clause referring to Fish Frying
 “ will also give your Officers power to act in cases where they
 “ have hitherto found difficulties. Other Clauses will give
 “ your Officers additional powers in dealing with the pro-
 “ vision of Ambulances, and all expenses connected therewith
 “ for the removal of cases of accidents and sickness ; of the
 “ prevention of the conveyance of infected persons in public
 “ vehicles ; of inflicting penalties on persons having the
 “ charge of children for allowing them to attend Schools
 “ when suffering from Infectious Diseases. Your Medical
 “ Officer will have the power to examine any children at-
 “ tending Schools, and excluding any children from con-
 “ tinuing their attendance, and of closing Sunday Schools if
 “ it is thought desirable ; he will also have additional powers
 “ as to the inspection of Laundries, and of obtaining from
 “ Milk Sellers all particulars as to their source of supply, and
 “ as to the customers supplied.”

CRICK RURAL.—“ The adoption of building bye-laws for
 “ the whole of the district, on the basis of new model bye-
 “ laws issued by the Local Government Board, has been con-
 “ sidered and discussed at various meetings and I hope a
 “ resolution will soon be passed for the preparation of a
 “ complete code.”

TOWCESTER RURAL.—“ I beg to suggest to the Council
“ the desirability of having a Bye-law defining the distance
“ within which of a dwelling house it shall be illegal to keep
“ pigs.”

CHARLES E. PAGET,
County Medical Officer of Health.

County Hall, Northampton,
May, 1904.

LIST OF DISTRICT MEDICAL OFFICERS OF HEALTH FOR 1904.

DISTRICT.		MEDICAL OFFICER OF HEALTH.		RESIDENCE.
Urban:—				
Brackley (Borough)	...	J. S. Fenton, M.D., D.P.H.	...	Brackley
Daventry (Borough)	...	C. E. Oldacres, M.R.C.S.	...	Daventry
Higham Ferrers (Borough)	...	J. Crew, M.R.C.S., J.P.	...	Higham Ferrers
Desborough	...	H. Gibbons, M.B.	...	Desborough
Finedon	...	H. Burland, M.R.C.S.	...	Finedon
Irthlingborough.	..	W. Robb, M.B.	...	Irthlingborough
Kettering	...	J. W. Dryland, M.R.C.S., J.P.	...	Kettering
Oundle	...	B. R. Turner, M.B.	...	Oundle
Raunds	...	W. Mackenzie, L.R.C.P.	...	Raunds
Rothwell	...	J. More, M.D.	...	Rothwell
Rushden	...	F. H. Morris, M.D.	...	Wellingborough
Wellingborough...		W. W. Clark, M.D., J.P.	...	Wellingborough
Rural:—				
Brackley	...	G. N. Stathers, M.R.C.S., D.P.H.		Brackley
Brixworth	...	E. M. Knott, M.R.C.S.	...	Brixworth
Crick	...	G. Wilson, M.D., D.P.H.	...	Warwick
Daventry	...	A. R. Darley, M.D.	...	West Haddon
Easton-on-the-Hill		T. P. Greenwood, M.R.C.S.	...	Stamford
Gretton	...	J. E. O'Connor, M.B., D.P.H.	...	Kirby Muxloe, Leicester
Hardingstone	...	G. H. Percival, M.B.	...	Northampton
Kettering	...	J. W. Dryland, M.R.C.S., J.P.	...	Kettering
Middleton Cheney		J. I. Johnson, L.R.C.P.	...	Sulgrave, Banbury
Northampton	...	G. H. Percival, M.B.	...	Northampton
Oundle	...	C. N. Elliott, M.B.	...	Oundle
Oxendon	...	T. A. Durrant, M.R.C.S.	...	Market Harborough
Potterspury	...	T. S. Maguire, M.D.	...	Stony Stratford
Thrapston	...	C. N. Elliott, M.B.	...	Oundle
Towcester	...	C. Simpson, M.B.	...	Towcester
Wellingborough.	..	F. H. Morris, M.D.	...	Wellingborough

SUMMARY OF REPORTS OF THE DISTRICT
MEDICAL OFFICERS OF HEALTH.

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
Brackley Borough.	<p>(a) High general mortality.</p> <p>(b) Small amount of infectious sickness.</p> <p>(c) Improvements to water supply machinery.</p> <p>(d) Houses unfit for human habitation.</p>
Daventry Borough.	<p>(a) Rather high general mortality-rate.</p> <p>(b) Small amount of notifiable infectious sickness.</p> <p>(c) Sanatorium useful in isolating two introduced cases of Small-pox.</p> <p>(d) Influenza prevalent through most of the year.</p>
Higham Ferrers Borough.	<p>(a) Low general mortality rate.</p> <p>(b) Small amount of infectious sickness.</p> <p>(c) Water Scheme making satisfactory progress.</p> <p>(d) Want of a good disinfecting apparatus.</p>
Desborough Urban.	<p>(a) High general, but fair infantile, mortality rates.</p> <p>(b) Small-pox hospital built, and Disinfecter recommended.</p> <p>(c) Outbreak of Enteric-fever due to defective ventilation of sewers: ventilation and automatic flushing of sewers urged.</p>

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
	(<i>d</i>) Scarcity of cottage accommodation.
	(<i>e</i>) Water-carriage system of sewage nearly universal.
Finedon Urban.	(<i>a</i>) High infantile mortality rate.
	(<i>b</i>) Small amount of infectious sickness.
	(<i>c</i>) More ventilation to the sewers recommended : some further connections made with the sewerage system.
	(<i>d</i>) New public water supply scheme approaching completion.
Irthlingborough Urban.	(<i>a</i>) Low general mortality rate.
	(<i>b</i>) High infantile mortality rate.
	(<i>c</i>) Small amount of notifiable infectious sickness.
	(<i>d</i>) Want of a steam disinfecter for infected clothing.
	(<i>e</i>) Interesting outbreaks of non-fatal Diarrhœa due to polluted water.
	(<i>f</i>) Scheme for public water supply in hand.
Kettering Urban.	(<i>a</i>) Low general and zymotic mortality rates.
	(<i>b</i>) Building for open-air treatment of phthisis in course of erection in grounds of Union Workhouse.
	(<i>c</i>) Successful control of imported Small Pox.

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
Oundle Urban.	<p>(<i>d</i>) Localised outbreak of Enteric-fever due to an imported case and an associated drainage defect.</p> <p>(<i>e</i>) New reservoir for water in course of construction</p> <p>(<i>f</i>) Flushing of sewers improved.</p> <p>(<i>g</i>) Public Slaughter House recommended.</p> <p>(<i>h</i>) Erection of a Refuse Destructor in hand.</p>
	<p>(<i>a</i>) High general and infantile mortality rates.</p>
	<p>(<i>b</i>) Some prevalence of Scarlet-fever of a mild type.</p>
	<p>(<i>c</i>) Hospital Tent provided for the isolation of small-pox cases.</p>
	<p>(<i>d</i>) Several connections made with main sewer.</p>
Raunds Urban.	<p>(<i>e</i>) Schemes for softening the water of the public supply under consideration.</p>
	<p>(<i>a</i>) High infantile mortality, but no death from Phthisis Pulmonalis.</p>
	<p>(<i>b</i>) Case of Hæmorrhagic Small-pox, but no spread of the disease.</p>
	<p>(<i>c</i>) Wood and Iron Hospital for 8 beds purchased: Disinfectant required.</p> <p>(<i>d</i>) Improvement in working-class house accommodation.</p>

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
Rothwell Urban.	(e) Promotion of a scheme for a public water supply.
	(a) Low general, but high infantile, mortality rate.
	(b) Some prevalence of Scarlet-fever.
	(c) Introduction of Small-pox, and spread of disease averted by prompt measures.
	(d) New Cemetery now in use.
Rushden Urban.	(a) Low general mortality rate.
	(b) Public water scheme in course of completion.
	(c) Dairies and Cowsheds Regulations adopted.
Wellingborough Urban.	(a) Low general mortality rate.
	(b) Comparatively few cases of infectious diseases.
	(c) Increase in the quantity of the public water supply is said to be very satisfactory.
	(d) Isolated cottages used for a Small Pox Hospital.
	(e) House refuse destroyed by incineration.
Brackley Rural.	(a) General mortality rate rather high, but a low infantile mortality rate.
	(b) Some prevalence of Scarlet-fever of a mild type.
	(c) Augmented water supply at Hinton.

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
	(<i>d</i>) Some sewerage work done in a few villages.
Brixworth Rural.	<p>(<i>a</i>) High general and infantile mortalities.</p> <p>(<i>b</i>) Large prevalence of scarlet-fever and diphtheria.</p> <p>(<i>c</i>) Occurrence of small-pox at Brampton.</p> <p>(<i>d</i>) Improvement in Vaccination returns.</p> <p>(<i>e</i>) Sewage disposal schemes carried out at Cold Ashby and Creaton.</p> <p>(<i>f</i>) Disinfector for District recommended.</p>
Crick Rural.	<p>(<i>a</i>) High general mortality rate, due to large proportion of deaths among aged people, but low infantile mortality rate.</p> <p>(<i>b</i>) Junction with neighbouring Warwickshire districts for isolation hospital purposes.</p> <p>(<i>c</i>) Small amount of infectious sickness.</p> <p>(<i>d</i>) Adoption of building bye-laws recommended.</p>
Daventry Rural.	<p>(<i>a</i>) Low general and infantile mortality.</p> <p>(<i>b</i>) Low rate of infectious sickness.</p> <p>(<i>c</i>) Waterscheme for Long Buckby delayed by difficulty over the land, and that for Badby</p>

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
	awaiting approval of the Local Government Board.
	(d) Steps for the prevention of River Pollution being taken at Badby and Flore, but plans not yet prepared for Weedon.
Easton-on-the-Hill Rural.	<p>(a) Fair general mortality rate.</p> <p>(b) Absence of notifiable infectious sickness.</p> <p>(c) Some privy-vaults still existing.</p>
Gretton Rural.	<p>(a) Low general and infantile mortality rates.</p> <p>(b) One imported case of Small-pox, small amount of other infectious sickness.</p> <p>(c) Some sewerage done in the village of Gretton.</p>
Hardingstone Rural.	<p>(a) Low general and infantile mortality rates.</p> <p>(b) A single case of small-pox from infection outside the district. Small amount of other infectious sickness.</p> <p>(c) Public water supply for Denton completed, and for Brafield in hand.</p> <p>(d) Sewage scheme for Brafield completed, and those for Yardley Hastings and Cogenhoe in hand.</p> <p>(e) Dairies and Cowsheds specially reported on after inspection.</p>

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
Kettering Rural.	<p>(a) Low general and zymotic mortality rates.</p> <p>(b) Considerable prevalence of Measles, but no case of Small-pox, Diphtheria, or Enteric fever.</p> <p>(c) Sewage disposal schemes in hand at Burton Latimer and some other villages.</p> <p>(d) New water supplies for Pytchley and Stanion found to be satisfactory, those for Burton Latimer and Cranford in hand.</p>
Middleton Cheney Rural.	<p>(a) Working-class dwelling accommodation inferior in quality.</p> <p>(b) Improvement needed in methods of excrement disposal.</p> <p>(c) Water supply from springs and wells satisfactory, and repairs to mains at Lower Boddington carried out. A case of neglect to make proper repairs at Upper Boddington.</p> <p>(d) No isolation hospital, or means for disinfecting clothing.</p>
Northampton Rural.	<p>(a) Fairly low general mortality rate.</p> <p>(b) Small amount of infectious sickness.</p> <p>(c) Scheme for sewage disposal at Bugbrooke in hand.</p>

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
Oundle Rural.	<p>(<i>d</i>) Hospital tent procured for isolation of Small-pox cases.</p> <p>(<i>e</i>) Disinfection of Midwives' and other infected clothing by arrangement with the Borough of Northampton.</p>
Oxendon Rural.	<p>(<i>a</i>) High general mortality rate for a rural district.</p> <p>(<i>b</i>) Small amount of notifiable infectious sickness, but six deaths from whooping-cough.</p> <p>(<i>c</i>) Isolation Hospital in course of completion.</p>
Potterspury Rural.	<p>(<i>a</i>) Low Infantile-mortality rate.</p> <p>(<i>b</i>) Small amount of notifiable infectious sickness.</p> <p>(<i>c</i>) Isolation hospital and disinfecting apparatus recommended.</p> <p>(<i>d</i>) Water supply at the village of Braybrooke unsatisfactory.</p> <p>(<i>e</i>) Several sewage effluents dealt with, but others require attention.</p>
Thrapston Rural.	<p>(<i>a</i>) Low infantile mortality rate.</p> <p>(<i>b</i>) Serious need of public water supply at Potterspury.</p> <p>(<i>c</i>) Increase of pail-closets in certain localities.</p>
	<p>(<i>a</i>) Fairly low general mortality rate.</p> <p>(<i>b</i>) Small amount of notifiable infectious sickness.</p>

NAME OF DISTRICT.	PROMINENT FEATURES OF REPORT.
	<p>(c) A few cases of enteric-fever traced to a polluted well.</p> <p>(d) Scheme for public water supply at Brigstock in hand.</p> <p>(e) Public scavenging again urged for Thrapston.</p> <p>(f) Sewage disposal works nearly completed for Ringstead.</p>
Towcester Rural.	<p>(a) High general and infantile mortality rates for a rural district.</p> <p>(b) Prevalence of Scarlet-fever at Weston by Weedon and Lois Weedon and Whittlebury.</p> <p>(c) Purchase of a "Thresh Emergency Disinfector."</p> <p>(d) Bye-law with regard to the keeping of pigs in the neighbourhood of a dwelling-house recommended.</p>
Wellingborough Rural.	<p>(a) Low general, but high infantile, mortality rate.</p> <p>(b) Three army blankets seized at Ecton.</p> <p>(c) Sewage disposal schemes in hand or being prepared for Wilby, Isham, Mears Ashby, and Irchester.</p> <p>(d) Site for a small-pox hospital been purchased.</p>

VITAL STATISTICS DURING 1903.

Table I.

SANITARY DISTRICTS. 1.	Population estimated to middle of 1903. 2.	BIRTHS.		Total Deaths Registered in the Districts.				Total Deaths in Public Institutions in the Districts. 9.	Deaths of Non-residents registered in Public Institutions in the Districts. 10.	Deaths of Resi- dents registered in Public Institu- tions beyond the Districts 11.	Nett Deaths at all Ages belonging to the Districts.		Area of Districts in Acres. 14.	At Census of 1901.		
		Number. 3.	Rate.* 4.	Under 1 year of Age.		At all Ages					Number. 12.	Rate.* 13.		Total Population at all Ages. 15.	No. of inhabited Houses. 16.	Average No. of persons per House. 17.
				Number 5.	Rate per 1,000 Births Registered. 6.	Number. 7.	Rate.* 8.									
URBAN—																
BRACKLEY (BOROUGH) ...	2,467	67	27.1	8	119.4	45	18.2	7	5		40	16.2	3,489	2,467	548	4.5
DAVENTRY (BOROUGH) ...	3,780	90	23.8	7	77.7	73	19.3	20	13	1	61	16.1	3,633	3,780	869	4.3
HIGHAM FERRERS (BOROUGH)	2,540	59	23.2	6	101.6	30	11.8				30	11.8	1,945	2,540	555	4.5
DESBOROUGH ...	3,752	88	23.4	10	113.6	56	14.9				56	14.9	2,400	3,573	748	4.7
FINEDON ...	4,214	124	29.4	20	161.2	59	14.0				59	14.0	3,661	4,129	853	4.8
IRTHLINGBOROUGH ...	4,728	152	32.1	23	151.3	63	13.3				63	13.3	3,722	4,314	896	4.8
KETTERING ...	30,000	847	28.2	95	112.1	353	11.7	59	25	3	331	11.0	2,814	28,653	5,659	5.0
OUNDLE ...	2,404	44	18.3	8	181.8	50	20.7	13	11		39	16.2	2,228	2,404	512	4.7
RAUNDS ...	4,211	109	25.8	14	128.4	45	10.6				45	10.6	4,460	3,811	832	4.5
ROTHWELL ...	4,900	97	19.7	20	206.1	51	10.4	2		2	53	10.8	3,638	4,193	902	4.6
RUSHDEN ...	13,337	404	30.2	37	91.5	136	10.1			3	139	10.4	3,777	12,453	2,492	5.0
WELLINGBOROUGH ...	19,872	511	25.7	50	97.8	232	11.6	42	19	5	218	10.9	4,265	18,412	3,873	4.7
Totals and Means for Combined URBAN DISTRICTS ...	96,205	2,592	26.94	298	114.96	1,193	12.40	143					40,032	90,729	18,739	4.8
RURAL—																
BRACKLEY ...	7,181	159	22.1	11	69.1	100	13.9			3	103	14.3	42,440	7,182	1,818	3.9
BRIXWORTH ..	11,820	296	25.0	34	114.8	186	15.7	26	10	2	178	15.0	63,647	11,829	2,876	4.1
CRICK ...	2,280	51	22.3	3	58.8	41	17.9			6	47	20.6	18,547	2,284	601	3.8
DAVENTRY ..	13,425	317	23.6	26	82.0	174	12.9			5	179	13.3	60,877	13,425	3,275	4.0
EASTON-ON-THE-HILL ...	1,462	42	28.7	2	47.6	18	12.3			2	20	13.6	6,341	1,462	353	4.1
GRETTON ...	1,537	30	19.5	2	66.6	15	9.7				15	9.7	12,310	1,563	372	4.2
HARDINGSTONE ...	7,846	200	25.4	14	70.0	94	11.9	5		4	98	12.4	32,542	7,846	1,889	4.1
KETTERING ...	12,000	310	25.8	24	77.4	137	11.4			18	155	12.9	49,337	11,674	2,623	4.4
MIDDLETON CHENEY ...	2,414	52	21.5	3	57.6	34	14.0			3	37	15.3	13,888	2,414	626	3.8
NORTHAMPTON ...	6,360	156	†29.1	19	121.7	166	26.1	99	98		68	†12.7	16,228	6,420	1,290	†4.2
OUNDLE ...	6,452	182	28.2	20	109.8	112	17.3			13	125	19.3	58,677	6,859	1,727	3.9
OXENDON ...	4,202	75	17.8	4	53.3	55	13.0			6	61	14.5	34,491	4,202	1,084	3.8
POTTERSPURY ...	5,236	139	26.5	11	79.1	70	13.3	7	5	2	67	12.7	19,914	5,372	1,282	4.1
THRAPSTON ...	10,239	265	25.8	24	90.5	129	12.5	19	5	4	128	12.5	36,836	10,348	2,453	4.2
TOWCESTER ...	10,498	231	22.0	26	112.5	156	14.8	13		3	159	15.1	42,457	10,720	2,633	4.0
WELLINGBOROUGH ...	13,453	333	24.7	39	117.1	158	11.7			4	162	12.0	33,115	13,156	3,033	4.3
Totals and Means for Combined RURAL DISTICTS ...	116,405	2,838	24.38	262	92.31	1,645	14.13	169					541,647	116,756	27,935	†4.1
Totals and Means for ADMINIS- TRATIVE COUNTY ...	212,610	5,430	25.53	560	103.13	2,838	13.34	312	†53		2,785	13.09	581,679	207,485	46,674	†4.4

* Rates in Columns 4, 8, and 13, calculated per 1,000 of estimated population.

† Berry Wood Asylum population excluded for purposes of this calculation.

‡ Deaths in Berry Wood Asylum situate in Northampton Rural District, and in Northampton County Borough Infectious Diseases Hospital situate in Brixworth Rural District, of persons not belonging to the Administrative County.
NOTE.—The deaths included in Column 7 of this Table are the whole of those registered during the year as having actually occurred within the Districts. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10, and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" taken into account for the purposes of this Table are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums.

CAUSES OF, AND AGES AT, DEATH DURING THE YEAR 1903.

Table II.

URBAN SANITARY DISTRICTS.	Deaths at							Aged under 5 or over 5	Deaths from																																	
	All Ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and up-wards		Small Pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Mem- branous Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Plague.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases & Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.	All Causes.	
															Typhus.	Enteric.	Other continued.																									
BRACKLEY (BOROUGH) ...	40	8		1	4	8	19	Under 5 5 upwds.													1 1					1		3	2	1 2			1	2	7			4 14	8 32			
DAVENTRY (BOROUGH) ...	61	7		2	2	22	28	Under 5 5 upwds.								6						1				9	1	2	3	7		1	1		1		1 7	2		3 16	7 54	
HIGHAM FERRERS (BOROUGH)	30	6	2	2	1	12	7	Under 5 5 upwds.																	3	1	2	1 1	1				3			5	2	2	4 5	8 22		
DESBOROUGH	56	10	5	3	6	19	13	Under 5 5 upwds.					1								2					4	1	6	1	4		1			2	1	10	1	1	4 13	15 41	
FINEDON	59	20	6	2	3	12	16	Under 5 5 upwds.				1		1											1	4	1	6	3 1	3				2			4	1		18 12	26 33	
IRTHLINGBOROUGH ...	63	23	4	2	1	16	17	Under 5 5 upwds																		9	3	3	1 5	3 1				8	1	2	1	2		12 11	27 36	
KETTERING	331	94	46	19	17	90	65	Under 5 5 upwds.	1	11 1	3	8 1	1			1	5				2	3 1				2 22	3 12	23	20 11	14 12	2	2 1	3		18	2	19	4 6	3	51 62	140 191	
OUNDLE	39	8	4	1	4	7	15	Under 5 5 upwds.					1								1					3	2 1	2	1 1			1		3			2	1	2	3 14	12 27	
RAUNDS	45	14	4	3	1	8	15	Under 5 5 upwds.	1	1																	4 2	5	4	2				1			3	2		8 12	18 27	
ROTHWELL	53	20	9	1	3	11	9	Under 5 5 upwds.		2						1										3	2	1	3	2							8			20 10	29 24	
RUSHDEN	139	37	14	7	12	42	27	Under 5 5 upwds.		5		4	1	1		1	1				1	1 1				15	1 3	12	10 5	1 2				10		4	20	5	1	17 17	51 88	
WELLINGBOROUGH ...	218	50	26	6	11	68	57	Under 5 5 upwds.		5		3	1								8	2 1				1 18	2 1	15	6 7	7 3			2		12		1	31	2 4	1	27 58	76 142
TOTALS	1,134	297	120	49	65	315	288	Under 5 5 upwds.	2	24 1	3	16 1	4 1	2		7	13				13 1	9 3	1		1	3 90	20 22	80	50 35	33 34	3	2 2	8		61	11	2 118	7 24	12	171 244	417 717	

NOTE.—So far as the information is obtainable, all deaths of "Residents" occurring in public institutions, either within or without the districts, including Berry Wood Asylum, are included in this table, and deaths of "Non-Residents" occurring in public institutions in the districts are excluded.
See Note on Table I, as to meaning of "Residents" and "Non-Residents."

CAUSES OF, AND AGES AT, DEATH DURING THE YEAR 1903.

Table II.

RURAL SANITARY DISTRICTS.	Deaths at								Aged under 5 or over 5	Deaths from																															
	All Ages	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and up-wards	Small Pox.		Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Mem- branous Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Plague.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phthisis.	Other Tubercular Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases & Accidents of Parturition.	Heart Diseases.	Accidents	Suicides.	All other Causes.	All Causes.
															Typhus.	Enteric.	Other continued.																								
BRACKLEY ...	103	11	3	3	4	22	60	Under 5 5 upwds.				1						3			2					6	1 2	10	2 4	1 5			1			11	1		7 46	14 89	
BRIXWORTH ..	178	34	15	4	4	51	70	Under 5 5 upwds.		1	1	2 3			1		1			3	1		1 2			8	2 1	10	6 12	4 5			3		5		1 18	3 2	20 59	49 129	
CRICK ...	47	3	2	1		13	28	Under 5 5 upwds.				1					1						1					1 5	1						5	3		3 25	5 42		
DAVENTRY ..	179	26	10		5	52	86	Under 5 5 upwds.			1	2					5				2 1		1			10		16	8 6	7 *13			9		3	1 5	2 3	1 *73	10 143		
EASTON-ON-THE-HILL ...	20	2	1	1	2	7	7	Under 5 5 upwds.																		2		4					1		1		2 9	3 17			
GRETTON ...	15	2			2	5	6	Under 5 5 upwds.				1														1		2	2				1		3	1	1 3	2 13			
HARDINGSTONE ...	98	14	6	4	9	18	47	Under 5 5 upwds.				2								2	2 1			1	7	1 1	6	1 1	2 4		1			2	1 8	3	9 43	20 78			
KETTERING ..	155	25	9	4	10	50	57	Under 5 5 upwds.		3		4					3			2	2				8	1	1 9	3 4	2 5	1	1		5	1 16	7	12 65	34 121				
MIDDLETON CHENEY ...	37	3	3	2	2	12	15	Under 5 5 upwds.				1					1			1								2	1 2	4		1 2			6	1	2 13	6 31			
†NORTHAMPTON ...	68	19	4	7	4	8	26	Under 5 5 upwds.				2	1 1							2						4	2 2	3	3 5 2				2	1 4		5 29	23 45				
OUNDLE ...	125	20	6	4	5	28	62	Under 5 5 upwds.			6						1							1	9	1 1	6	2 7	4 1			1		3		16 6	3 48	7 99			
OXENDON ..	61	4	2	2	4	16	33	Under 5 5 upwds.			1 1	1 1			1		2				1			1	3	1 5	1 2	1			1			12 2	2 21	6 55					
POTTERSPURY ...	67	11	3	3	2	14	34	Under 5 5 upwds.				1	1				3				2 1				4	1 2	4	2			1		1	1 7	1 2	4 29	14 53				
THRAPSTON ...	128	24	9	4	9	26	56	Under 5 5 upwds.				1 1					1 1							1	1 7	3 2	8 4	6 2			1		7 1	17 3	2 10 47	33 95					
TOWCESTER ..	159	26	4	3	3	44	79	Under 5 5 upwds.			1	1	1							2	2 1					6	1 3	11 3	8 4 5	1	2	4		5		18 1	2 2	11 69	30 129		
WELLINGBOROUGH ...	162	39	4	12	6	45	56	Under 5 5 upwds.		1		4				6					1 1	1				1 12	2 2	14 6	3 5	1 5			1 2		11		19 3	1 45	21 43 119		
TOTALS ...	1,602	263	81	54	71	411	722	Under 5 5 upwds.		5	9 3	21 2	5 7	1		8		1 21			12 2	12 6	2 2	4 4	4 4	2 87	11 13	2 101	49 66	33 54	2 2	8 22	1 1	45 6	3 166	8 39	10 10	125 624	344 1258		

Deaths in Berry Wood Asylum numbered 99, 43 of these being Non-Residents of the Administrative County.

* One death from Pneumonia and one from Senility, occurring in Berry Wood Asylum, are believed to belong to Daventry Rural District.

NOTE.—So far as the information is obtainable, all deaths of “Residents” occurring in public institutions, either within or without the districts, including Berry Wood Asylum, are included in this table, and deaths of “Non-Residents” occurring in public institutions in the districts are excluded.

See Note on Table I, as to meaning of “Residents” and “Non-Residents.”

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1903.

Table III.

URBAN SANITARY DISTRICTS.	AGES OF CASES NOTIFIED.							NUMBER AND CLASS OF CASES NOTIFIED.													NUMBER AND CLASS OF CASES REMOVED TO HOSPITAL.													
	At all Ages.	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and up-wards.	Small Pox.	Cholera	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Relapsing Fever.	Continued Fever.	Puerperal Fever.	Plague.	Chicken Pox.	TOTALS.	Small Pox.	Cholera.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Relapsing Fever.	Continued Fever.	Puerperal Fever.	Plague.	TOTALS.
*BRACKLEY (BOROUGH) ...	4											1	3								4													
DAVENTRY (BOROUGH) ..	21		1	4	5	9	2	2				14	5								21	2					5							7
HIGHAM FERRERS(BOROUGH)	4			2	1	1						1	2		1						4													
DESBOROUGH ...	55		6	26	16	7				4			13		37			1			55													
FINEDON ...	1			1									1								1													
IRTHLINGBOROUGH ...	9			4		5						2	4		3						9													
KETTERING ...	180	2	25	81	37	33	2	7		10		42	109		11			1			180	7					84		11					102
OUNDLE ...	15		1	13		1				2		1	12								15													
RAUNDS ...	2			1		1		1					1								2	†1												1
ROTHWELL ...	19		6	8	1	4		2					17								19	2												2
RUSHDEN ...	41	2	9	12	6	11	1			3	2	11	19		6						41													
WELLINGBOROUGH ...	48	1	10	9	13	14	1			8		18	17		5						48			2			8		2					12
TOTALS ...	399	5	58	161	79	86	6	12		27	2	90	203		63			2			399	12		2			97		13					124

† Temporary Hospital.

* Ages not given.

† Temporary Hospital.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1903.

Table III.

RURAL SANITARY DISTRICTS.	AGES OF CASES NOTIFIED.								NUMBER AND CLASS OF CASES NOTIFIED.													NUMBER AND CLASS OF CASES REMOVED TO HOSPITAL.													
	At all Ages.	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and up-wards.	Small Pox.	Cholera	Diphtheria.	Membranous Group.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Relapsing Fever.	Continued Fever.	Puerperal Fever.	Plague.	Chicken Pox.	TOTALS.	Small Pox.	Cholera.	Diphtheria.	Membranous Group.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Relapsing Fever.	Continued Fever.	Puerperal Fever.	Plague.	TOTALS.	
BRACKLEY	46	2	11	22	3	6	2			3		6	36		1						46														
BRIXWORTH	148	1	26	62	17	36	6	1		34		31	78		2			2			148	1		10			15								26
CRICK	14		2	5	2	5				2		5	7								14														
DAVENTRY	28		2	13	3	7	3			1		11	15		1						28														
EASTON-ON-THE-HILL .	Nil.																																		
GRETTON	5			2		2	1	1				3								1	5														
HARDINGSTONE	7	1	3	1		2		1		†2	1	1	2								7	1												1	
KETTERING	43		3	18	6	14	2					18	25								43						11							11	
MIDDLETON CHENEY ...	5			5									5								5														
†NORTHAMPTON	21		2		1	1				2	1	5	11		2						21														
OUNDLE	14		2	2	4	6						5	4		4			1			14														
OXENDON	13		2	5	1	3	2			1	3	4	3		2						13														
POTTERS PURY	20		3	11	2	3	1			2		9	7		2						20														
THRAPSTON	35		6	20	1	8		1				7	22		5						35														
TOWCESTER	49	1	12	26	5	4	1			4			45								49			*1										1	
WELLINGBOROUGH ...	67		9	24	14	18	2					14	32		20			1			67														
TOTALS	515	5	83	216	59	115	20	4		51	5	119	292		39			4		1	515	2		11			26							39	

† Majority of Ages not given.

‡ Doubtful cases.

* Removed to Northampton.

To the Chairman and Members of the Northampton Rural District Council.

GENTLEMEN,

JANUARY, 1904.

I beg to present my Report for the year 1903, with the usual Tables. I have assumed that the population of the district is stationary; the only village in which building operations are in progress is Duston, and here it is only about sufficient to make up for the assumed deficiency in the rest of the district, as shown by the last Census Returns.

The total number of births during the year was 156, showing a birth rate of 29 per 1,000, on a population of 5,345, that is by excluding Berry Wood Asylum. The birth rate last year was exceedingly small (only 139 births), the present rate is a fairly average one, but there have been as many as 182 births.

The number of deaths in children under one year of age was 19, giving a ratio per 1,000 births registered of 121. Last year there were only 17 such deaths, but the number of children born was so small that the ratio was 122, slightly in excess of the present year. The ratio has been as low as 94 and 98, and as high as 171. During the last ten years the ratio has only been lower than the present one on three occasions, so that the infant mortality for the year is very satisfactory.

The total number of deaths was, for the whole district, 166, giving a ratio per 1,000 of 26; of these deaths, however, 99 occurred in Berry Wood Asylum, amongst persons not previously resident in the district, so that, by deducting these, we find that there were only 67 deaths of persons really residing in the district, with the low death rate of 12·5 per 1,000. Last year there were only 65 deaths in this district, and these two years show considerably fewer deaths than in any of the previous ten years. The highest death rate was in 1897, when there were 98 deaths and a mortality rate of 17·3 per 1,000. There was no marked decline in any particular district; each showed a considerably lower death rate than the average for the past ten years.

Table II. gives the statistics for the whole district, and also for the different sub-districts comparing each, with the previous ten years. This shows that the increase in the number of births during the year was entirely in the Duston Sub-District, where there were 41 births, which is 9 above the average of the ten years; whilst in the Weston Favell District there were only 22, or 10 below the average, and in the Kissingbury District 93, also a trifle below the average.

Table III. shows the cases of infectious disease notified during the year. There was a total of 21 cases, against 30 in 1902, 21 in 1901, and 12 in 1900. The number this year must be considerably diminished by an analysis of the cases of Scarlet Fever notified: Thus, two of these cases were in convalescents at the Weston Favell home, who had just been admitted from Kettering, and, unfortunately one of them was fatal, but as it occurred in a non-resident, it is not shown amongst the deaths in this district. One other case at Lower Heyford occurred in a young man also resident at Kettering, who came home unwell, and fell ill with Scarlet Fever. One case at Billing Lings happened in a family who had taken the house for the summer months, and were backwards and forwards, mostly being in the town during the daytime. The two cases at Berry Wood Asylum were not contracted in this District; the first child went to spend the week-end with friends at Berry Wood, and on the Sunday was found to be suffering from Scarlet Fever; and the second child contracted the disease from this one. Thus, if we deduct these 6 cases from the 11 cases of Scarlet Fever notified, we find that only 5 of them really occurred amongst residents of the district, and the total number comes down from 21 to 16. The few isolated cases were difficult to trace, but all seemed to have had more or less intercourse with the town of Northampton, where the disease has been very prevalent during the year. I am only surprised that when we consider how small the distance is between the town and many of our villages, we do not suffer much more, and that the cases show so little disposition to spread.

Two cases of Enteric Fever were notified. The first occurred in a yard at Kissingbury, where the drains were out of order, and the ashpits were in a very dirty state; these were ordered to be cleaned out, and the disease did not spread. The second case was the Schoolmaster at Duston, no cause could be found for it, there were no sewer gratings near his house, and there were no other cases in the village; as he was very often away from home, I think he must have been drinking contaminated water or milk elsewhere.

Two cases of Diphtheria were notified at Kissingbury. The first occurred in the same yard as the case of Enteric Fever, and about the same time, and was probably due to the state of the drains and ashpits. The second, which was unfortunately fatal, was a very strange one. A child in the village suffered from Diphtheria over a year ago, its clothes were put away, and after some time worn by another child, who also contracted Diphtheria. During this summer these clothes

were again brought out and given to the present child, who contracted the disease and died. No other cause could be assigned, and, of course, the clothes have now been destroyed.

One slight and rather doubtful case of Membranous Croup was reported at Duston.

Besides the above infectious cases that have been notified, I have had to close the Schools at Great Billing for a fortnight, in February, on account of an epidemic of Mumps in that village, and also, in March, the Schools at Lower Heyford were closed for three weeks because of an epidemic of Measles.

Besides the deaths from Diphtheria, there were 2 deaths from Whooping Cough in the Kissingbury District, so that the zymotic death rate is very low. It is difficult to properly calculate this, as there was 1 death certified from ordinary Croup, and 2 deaths from Diarrhoea in children under one year of age. Some Health Officers would include these in the zymotic death rate, but I consider it absurd to do so; there ought to be some definite plan adopted, so that these tables could be on a uniform basis.

Regarding the other causes of death there is little to remark, as might be expected from the low death rate. There were 27 deaths from different forms of Tubercular Disease, but as 19 of these occurred at Berry Wood, only 8 can be assigned to this district, which is not very high. Seven deaths were due to other forms of Lung Disease, and only 3 to Cancer.

The drainage scheme at Duston seems to be working well; I have heard no complaint of it, and when I have visited it, I could detect no unpleasant smell, but the men working there tell me that occasionally it is somewhat disagreeable. Mr. Paget, the County Medical Officer of Health, has quite recently pointed out to me that he considers enough use is not made of the land, and that it flows too constantly over the same surface. I have suggested easy means by which I consider this may be rectified, and your Council has just given orders for this to be carried out.

The scheme for the interception and purification of the Bugbrooke Sewage before it enters the river is in course of completion, but at present it is too early to speak as to its success.

The water supply at Kissingbury has been abundant and most useful. The water supply at Heyford is also good, but, on account of a defective pipe, it was reported during the summer that no water reached the School premises. This has now been rectified, and I am informed that there is a good supply throughout the system.

During the year, as cases of Small Pox seemed cropping up in different parts of the County, your Council have bought a tent in which to isolate such cases should they unfortunately happen. They have also made arrangements to rent a field in the vicinity of Kissingbury, on which to erect the tent in case of emergency; at present no such necessity has arisen. I am still of opinion that it is very desirable for the County Council to group rural districts for the purpose of establishing proper permanent isolation hospitals.

Picket Row, in Weston Favell, has again been before your Council on several occasions, but no permanent steps have yet been taken to improve these cottages. I consider that some clearance must be effected in this yard before its condition will be satisfactory.

As the new Midwives Act will shortly come into operation, the County Council have made enquiries as to the provision in your district for disinfecting clothes of midwives when necessary under the provisions of this Act. Arrangements have been made with the Northampton Urban Council, by which any clothes sent to them by your Authority will be disinfected at a certain rate. I consider this a most wise step, and I hope by this means we shall now be enabled to more satisfactorily disinfect clothes in cases of infectious disease, so that there will be no recurrence of such an unfortunate mishap as occurred in the case of Diphtheria at Kissingbury.

The dairies and cowsheds have been visited during the year. As in almost all cases the cows are in the fields during the daytime, there is not in most cases much to complain of. Where necessary, orders have been served to remedy any faults, and when these are completed I hope the dairies will be in a fairly good condition.

As regards the Factory Act there is nothing to add to my remarks of last year. There are only a number of small workshops in some of the villages; these are visited periodically, and any nuisances at once remedied. The bakehouses are clean and regularly whitewashed; there are no underground bakehouses.

On the whole I have to congratulate the Council on the low rate of mortality during the year, and on the comparative freedom from infectious disease of your district.

I am, Gentlemen,

Yours faithfully,

G. H. PERCIVAL,

MEDICAL OFFICER OF HEALTH.



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